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The Boca Raton Historical Society's Streamline Passenger Cars

By Janet Murphy



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THE BOCA RATON HISTORICAL SOCIETY'S STREAMLINE PASSENGER CARS
Introduction

The history of America is the history of the railroad, and it is a story that fascinates each new generation. The story of the railroad in South Florida is still unfolding. The Boca Raton Historical Society's 1947 Seaboard Air Line (SAL) dining and lounge cars at the northwest corner of Camino Real and Dixie Highway in Boca Raton provide a unique window into America's past.

The stainless steel, streamlined cars – rare examples of the Moderne train cars – represent an exciting time in high-speed passenger service. Over the years, as train travel waned, many cars were retired and ultimately sold for scrap. It was through the foresight of a small group of individuals and the Boca Raton Historical Society (BRHS) that these cars were saved. In addition to the in-depth history of the streamliners, this paper will provide personal accounts of the struggles and joys that came with the arrival of the streamline cars, a steam locomotive and caboose to Boca Raton, Florida.

The following is a history of the 1947 SAL dining and lounge cars researched and written by architectural historian, Janet Murphy. Ms. Murphy prepared two successful nominations (applications) to the National Register of Historic Places. The contents of the two applications have been condensed to create this paper. The completed applications including references, photographs and bibliographies, are on file at the Boca Raton Historical Society.

Each car was built for SAL by the Edward G. Budd Manufacturing Company, the premier builder of streamliners from the 1930s through the 1950s. Innovative design was important to the Budd Company, as demonstrated by their commissioning of noted architect Paul Philippe Cret and his associate John Harbeson as designers for their streamliners. Only nine other dining cars (series #6106-6114) and only five other observation lounge cars (series #6600-6605) were produced by the Budd Company. Very few streamliners of this type remain, many having been reduced to scrap metal.

*Streamliners at the
Boca Express Train
Museum (FEC RR
Station) 2012. Photo
by Susan Gillis*



THE DINING CAR

The Historical Society's SAL Dining Car #6113 is a lightweight streamliner built for high-speed travel. The car measures 85' in length, 9' 3" in width and 13' 6" in height, and weighs 143,280 pounds. It features a lightweight, stainless steel under frame, upper frame and body bolster, and has cast steel four-wheel trucks with 36" diameter wheels and W.A.B. Company air brakes. Other parts include a stainless steel anti-telescoping device, a Waugh twin cushion-type WM-6-GG draft gear, a type H tight-lock coupler, Hyatt journal boxes, 4-Houdaille shock absorbers, friction type side brakes, and a N.B. Company peacock-type 800-L hand brake. The original heating system was manufactured by the Fulton Sylphon Company, the lighting system was 110 volt, the motor generator was a GE 25 kw 134 volt, and the batteries were Edison A-14-H 88 cell. Axel driven generators provided the power to the electrical and air conditioning systems. The heat and hot water worked off a large steam boiler in the diesel locomotive.

The exterior of the dining car is a sleek stainless steel surface with fluting, or speed lines, along its upper and lower body. This fluting emphasizes the car's horizontal composition and Moderne streamline style. Both ends are squared and punctuated by diaphragms in order to attach additional cars. The large picture windows pierce the middle of the body forming a horizontal row. The car's undercarriage includes cast steel, four-wheel trucks and some of the mechanical equipment.



The Dining Car after restoration. Photo left by Susan Gillis, right by Clay Wieland



The dining car has a seating capacity of forty-eight persons, in addition to a pantry and a full kitchen. The kitchen is at one end and the dining area on the other end with a narrow side aisle connecting the vestibule or diaphragm with the dining section. Some of the original amenities included a banquet section, steward areas, tables that hooked onto the wall, lockers, linen storage, refrigerators and radio speakers. The pantry and the kitchen are both Moderne-style stainless steel. The kitchen has a wood burning stove and barbeque.



The kitchen, after restoration. Photo by Clay Wieland

The interior finish of the dining car is sound deadened aluminum paneling and Formica. The flooring is wood covered with linoleum. The windows vary in size, yet they are all double-sash, rectangular shaped, fixed windows positioned horizontally. The two sashes are parallel to each other with air space in between to allow for changes in outside pressure and temperature. The interior of the dining car was designed by Budd Company architects with some alterations by one of SAL's designers, Mrs. Brown.

Original interior mechanical features of the car include a Frigidaire electro mechanical air conditioning system, fan driven exhaust ventilators, stone felt, cork and fiberglass insulation, vapor air operated doors, an air pressure water system, two 50-gallon water tanks, two 200-gallon water tanks, and a full operating kitchen. Original light fixtures were fitted with heavy glass magnifying lenses to help amplify the fluorescent bulb output. Heat was provided through heating tubes covered with stainless steel running along the bottom of the car's walls. The dining car was used by Amtrak from 1971 until it was retired in 1977.

THE LOUNGE CAR

The Historical Society's observational lounge car is a lightweight streamliner built for high-speed travel. It measures 85' in length, 9'3" in width and 13'6" in height, and weighs 122,610 pounds. The car features a lightweight, stainless steel under frame, upper frame and body bolster, and has cast steel four-wheel trucks with 36" diameter wheels and W.A.B. Company air brakes. Other parts include a stainless steel anti-telescoping device, a Waugh twin cushion-type WM-6-GG draft gear, a type H tight-lock coupler, Hyatt journal boxes, 4-Houdaille shock absorbers, friction type side brakes, and a N.B. Company peacock-type 800-L hand brake. The original heating system was manufactured by the Fulton Sylphon Company, the lighting system was 110 volt, the motor generator was a GE 25 kw 134 volt, and the batteries were Edison A-12-H 88 cell. Axel driven generators provided the power to the electrical and air conditioning systems. The heat and hot water worked off a large steam boiler in the diesel locomotive.

Like the dining car, the observational lounge car also possesses a sleek stainless steel surface with fluting along its upper and lower body. The rounded end, though punctuated by an added diaphragm, further adds to the streamline form reflecting speed and efficiency. The large picture windows pierce the middle of the body forming a horizontal row that also begins to wrap the round end of the train. Like the dining car, the undercarriage has cast steel, four-wheel trucks and much of the mechanical equipment.



Lounge Car after restoration. Photo left by Susan Gillis, right by Clay Wieland.



The observational lounge car seats fifty-eight people, twenty-four in the observational lounge section and thirty-four in the tavern section. The original interior included a sleek curved bar, a

hostess room, a desk, a magazine rack, lockers and radio speakers. The tavern area had curved seating with round pedestal cocktail tables and rolled and pleated seats, and the front of the bar featured a design made of cut linoleum. The interior finish is sound deadened aluminum paneling and Formica. The flooring is wood covered with linoleum. Like the dining car, the lounge car's windows vary in size, are all double sash, rectangular shaped, fixed windows. The two sashes are parallel with air space in between to allow for changes in outside pressure and temperature. The interior of the lounge car was also designed by Budd Company architects with some alterations by SAL's designer, Mrs. Brown.



Observation section of the Lounge Car after restoration. Photo by Susan Gillis.

Original interior mechanical features of the car included a Frigidaire electro mechanical air conditioning system, fan driven exhaust ventilators, stone felt, cork and fiberglass insulation, vapor air operated doors, an air pressure water system, two 150-gallon water tanks, one folding water basin and toilet, and an ice cube maker. Original light fixtures were fitted with heavy glass magnifying lenses to help amplify the fluorescent bulb output. Heat was provided through heating tubes covered with stainless steel running along the bottom of the car's walls. Side hatch doors in the lower section of the bar area provided access for loading bar supplies. Most of these systems and features remain.

In 1967, the Historical Society's round-end observational lounge car was sent to SAL's Portsmouth, Virginia railroad shop to have a diaphragm added to the round-end. Most railroads had come to regret their investment in round-end observational cars since they could only function properly at the end of the train. Cars coupled on were isolated because there was no vestibule or diaphragm, thus an extra switching move was necessary wherever cars were added to the train. For this reason, few round-end observational cars were built after 1950, or those that were came equipped with end diaphragms. Square-end observational cars, much like the earlier sun-parlor cars, came into favor. These mid-train observational cars could be placed anywhere in the train. Older round-end observation cars, like the Seaboard Air Line #6603, were either retired or rebuilt. The observational lounge car was used by Amtrak from 1971 until it was retired in 1977.

Round-end lounge car from Seaboard Coastline ad, BRHSM Collections



HISTORIC CONTEXT OF THE RAIL CARS

The railroad had a profound influence on the development of Florida, helping to advance the state from a wilderness into one of the leading tourist and agricultural regions of the country. The late 19th and 20th centuries were a time of great expansion and consolidation in Florida's railroad industry. Track mileage increased from 518 miles in 1880 to 3,234 miles in 1900 and nearly 250 railroad companies had been consolidated into five primary systems that served the state, including the Seaboard Air Line Railway. Railroads continued to expand during the Progressive era and World War I, pushing further into Florida where new towns were developing and older towns celebrated the arrival of the railroad.

The Florida Land Boom of the 1920s was another time of railroad expansion in Florida with mileage reaching 8,220 by 1928, up from 5,930 a decade earlier. In addition, 650,000 persons arrived in the state by train in 1925 alone. The most aggressive expansion was SAL's 205-mile extension from Coleman in the central part of the state to West Palm Beach and then south to Miami and Homestead. With this expansion, SAL operated 1,713 miles of track in Florida and was the only railroad serving both of the state's coasts. The collapse of the Florida Land Boom and the onset of the Great Depression sent several of the railroad companies, including SAL, into bankruptcy and receivership.

By the 1940s, the railroad market began to rebound. World War II lifted the nation out of the depression and the flood of wartime traffic brought an era of prosperity to America's railroads. Following the war, the railroads struggled to retain passenger service. To renew emphasis on train travel, several railway companies, including SAL, bought new stainless steel streamlined cars with improved technology and amenities for the passengers. Although some companies dropped their passenger service, SAL's New York to Florida train service continued to thrive, with cars sold out during the winter season and much of the year.

HISTORY OF SEABOARD AIR LINE

The Seaboard Air Line Railroad was formed through assemblage of scattered existing 19th century railway lines in 1900 by John Skelton Williams of Richmond, Virginia. Williams was the first president of SAL and later became the assistant U.S. Secretary of the Treasury under William G. McAdoo in the Wilson administration. When organized in 1900, the railroad had a mainline between Portsmouth, Virginia and Atlanta, Georgia with various feeder lines. Williams, a banker with financial support of J. William Middendorf of the Baltimore banking firm of Middendorf, Oliver & Company, had accomplished this feat by acquiring four existing railway companies and securing charters to build tracks to connect their operations. From its beginning, the company pursued a policy of expansionism and by the 1920s, SAL became recognized as an important railroad with mainline routes between New York City and Miami, Florida. Much of the acquisition and expansion was under the ownership and direction of the Warfields of Baltimore, who had taken control of SAL in 1908-1909. Throughout its history, SAL enjoyed a fine reputation of fast, dependable, friendly service and had an important array of operations and equipment.

SAL was a latecomer in many of the territories that it served and it was wedged between the double-tracked Southern Railway and Atlantic Coast Line. Located between these two strong competitors SAL had to be innovative to gain its share of both freight and passenger traffic in its territory. This caused it to be on the cutting edge of new ideas not only for the area it served, but also in many cases for the railroad industry as a whole. In several instances SAL was on the

leading edge of steam power in the United States, though it was also early to convert its locomotives to diesel.

SAL's president from 1918-1927, S. Davies Warfield, an ardent proponent of the Southeast, recognized the great impact of the 1920s Florida Land Boom and set about expanding SAL to serve the greatest area of Florida's growing real estate market. The Florida East Coast Railway had almost no competition along Florida's east coast and had begun making sizable profits during the 1920s. In 1924, Warfield organized a line to build a 204-mile extension from Coleman to West Palm Beach. According to annual reports, this line had been considered as early as 1913 but plans were shelved with the outbreak of WWI.

With Florida's boom in full swing, construction proceeded rapidly and in only nine months the 204 miles were completed, arriving in West Palm Beach in January 1925. This enabled greater numbers of visitors to arrive during the height of the boom. On February 1, 1925, *The Palm Beach Times* reported that visitors to the Palm Beaches were arriving as fast as 10 trains per day. Hotels overflowed with speculators and investors. From West Palm Beach, the SAL pushed south, and by early 1927, it reached Miami and Homestead. The significance of this Coleman to Homestead extension should be noted as it was the last mainline built anywhere in the United States. The tracks were west and parallel to the Florida East Coast tracks. These new routes, combined with several other routes SAL built on Florida's west coast and in central Florida locations in the mid-1920s enabled SAL to rightfully claim to have the only cross-Florida routes.

The Florida Land Boom collapsed in late 1926 and significantly affected the railroads serving the state. Like the SAL, Henry Flagler's Florida East Coast Railway also geared up to serve Florida's incredible Land Boom period, but unlike the SAL, it relied almost solely on the Florida economy and when the boom ended, the Florida East Coast Railway became the only railroad in the country unable to pay even the interest on its indebtedness. On December 23, 1930, in the midst of the Great Depression, SAL was forced into receivership. Though some blamed SAL's major expansion in Florida as the cause sending the company into receivership, such major carriers as the Missouri Pacific, Frisco, Cotton Belt, Wabash, Erie, New Haven, Milwaukee Road, Rock Island, etc., also ended up in bankruptcy courts and these lines had little or no dependence on the economic conditions of Florida.

Despite being in receivership, SAL was still able to operate. They were also able to dispose of many of their unprofitable lines, while continuing their relationships with the Richmond, Fredericksburg & Potomac Railroad and the Pennsylvania Railroad for use of their mainline tracks between Richmond, Virginia and New York City. During this period, SAL was quick to respond to the public's desire for such comforts as air conditioning and reclining seats, and in the early 1930s it began to equip its mainline trains with these features. In its December 1933 Public Timetable, the *Orange Blossom Special* was advertised as the "Longest Distance Air Conditioned Train in the World" when it entered winter service to Florida. In November 1934, its major mainline trains to Florida were advertised as "The Only Air Conditioned Trains in the South." In early 1939, the SAL introduced the streamlined *Silver Meteor* and it proved to be an immediate success. That year the New York World's Fair was publicized as the "Fair of Tomorrow" and to fair goers, the *Silver Meteor* was advertised as the "Train of Tomorrow."

*Orange Blossom
Special streamliner
postcard, BRHSM
Collections*



At the close of World War II, SAL really came of age. It emerged from receivership on August 1, 1946, with Leigh R. Powell, Jr., as president and 3858 miles of mainline track in addition to leased lines. With loans from the Reconstruction Finance Corporation of the Federal Government, the road was able to build a modernization program, and revenues from the busy war years lifted the road back into profitability. SAL was in good shape and consistently improved its track, signaling and equipment, but it did it with a conservative plan under which it had learned to operate during its receivership. The result was a fine reputation for service and fast and dependable schedules for both passenger and freight trains that became the company's hallmark. SAL's position was bolstered by industrial development in the South and heavy traffic in phosphate rock – nearly one-fifth of SAL's tonnage – used in the production of fertilizer. SAL continued to promote and operate its passenger trains in a first class manner while many other railroads had relegated passenger trains to secondary status. Time proved the cross-Florida extension into West Palm Beach, Miami, and Homestead a profitable investment. When FEC dropped passenger service, SAL purchased all of FEC's lightweight passenger cars with the exception of the sleepers. From the late 1940s through the 1960s, SAL's freight and passenger revenues as well as net profits continued to grow and bypassed many of its competitors.

SAL was the first to purchase streamliners for the New York to Florida routes. These routes were consistently sold out, even during the off-season. When SAL's stainless steel *Silver Meteor* began service in 1939-1940, competitors Southern Railway and Atlantic Coast Line (ACL) were caught off guard as passengers flocked to the new SAL train and newspapers criticized the other lines for their outdated equipment and the service they provided. This ultimately forced Southern Railway and the ACL into the market for new equipment. Without hesitation they both went with the new stainless steel streamline cars.

In 1959, SAL and ACL proposed a merger. In 1967, after nearly eight years and many court battles, SAL and ACL were finally allowed to merge, changing its name to the Seaboard Coast Line Railroad Company. The merger of these former archrivals eliminated duplicate lines and terminals creating a highly efficient system along the East Coast and through the heart of the South.

THE SILVER METEOR TRAIN

As the Depression years waned, SAL needed to attract riders back to the rails. SAL had never ceased trying to fill its trains and in 1938 they decided they needed to do something dramatic to improve their image and attract more passengers. A streamliner between New York and Miami became their solution. SAL used Santa Fe's streamliner *El Capitan* as their model. The Budd-built, five-car, luxury coach had been a success since beginning service between Chicago and Los Angeles in February 1938. The success in attracting new riders was accomplished by

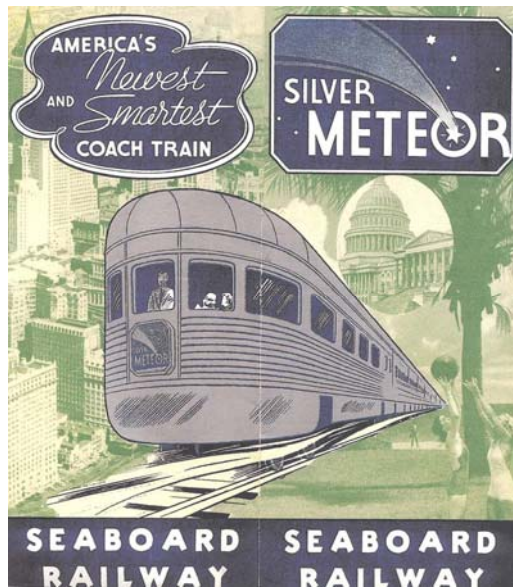
providing a “luxury” coach train at an affordable price. After conducting extensive inquiries of other railroads operating streamliners, SAL decided to purchase an experimental train set. On October 12, 1938 they contracted with the Budd Company, the premier builder of streamliner coaches, to build their new streamliner. As soon as the engineering aspects were completed, the project was turned over to Budd’s talented architects Paul Cret and John Harbeson.

While the streamliner was taking shape, SAL sought to generate publicity by conducting a “Name this Train Contest.” There was great response and the prize was shared by 30 winners who suggested the name *Silver Meteor*. The train was completed in late January 1939 and on February 1, the public was invited to tour the train while on exhibition at Penn Station in New York City. Visitors found Florida decorations at the concourse gate along with a number of dignitaries who would be taking the inaugural ride. The train consisted of five cars: a 22-seat baggage dormitory chair car designated to carry the “colored” passengers, two 60-seat spacious coaches, a chair-tavern car seating 30 coach passengers and 30 non-revenue lounge seats, and a twelve-table diner with full kitchen. The *Silver Meteor* left the following day on its inaugural run to Florida, fulfilling its promise of luxury travel to its passengers. Upon arrival in Miami on February 3, the *Silver Meteor* was mobbed by admiring crowds. The following day the *Silver Meteor* departed Miami for New York, arriving there on February 5. Originally, the train operated on a six-day cycle. It would make a round trip between New York and Miami and then make a round trip between New York and St. Petersburg. A short time later, a larger train set was used and a split would take place in Wildwood with one train traveling to Florida’s east coast and one train traveling to Florida’s west coast.

While SAL’s New York to Florida *Silver Meteor* routes were consistently sold out, even during the off-season, competitors FEC and ACL were caught off guard. Passengers flocked to the new SAL train and newspapers criticized the other lines for their outdated equipment and the service they provided. This ultimately forced FEC and ACL into the market for new equipment. Without hesitation they both went with the new stainless steel streamline cars.

With the *Silver Meteor* quickly repaying the investment, and with competitors FEC and ACL finalizing plans for streamliners of their own, SAL decided to meet the competition by purchasing two additional consists [sets of rail cars] to the original *Silver Meteor*. These trains remained extremely popular, with customer responses indicating that 95 percent or more of the passengers enjoyed the ride, the amenities and the service. Due to its great popularity, SAL decided to add seven cars to the consist of the *Silver Meteor*, including a round-end observational lounge car, sleepers and more spacious coaches.

In late 1942, the Office of Defense Transportation, a government agency overseeing the railroads, took steps to deal with the unprecedented demand on the Florida carriers. The *Silver Meteor* was expanded to help meet this demand, adding the *Advance Silver Meteor*. From 1942-1944, the government was moving nearly a million men a month. Added to this was an increase in business travel, people riding trains to conserve their automobile tires and gas, and the still impressive seasonal Florida tourist trade. Due to this great demand, SAL sold everything, including lounge seats as revenue space, with travel reaching record highs.



*Copy of Silver Meteor ad courtesy
The Wolfsonian*

Through the war years, SAL's wise investment in the *Silver Meteor* trains paid off. The initial commitment to lightweight streamliners had been a risk, but fortunately the public demand for the *Silver Meteor* seemed insatiable. The war had brought higher revenues than the road could ever have imagined in both freight and passenger service. Net revenues from February 1939 to March 1945 for the *Silver Meteor* were nearly \$23 million. When the war ended in 1945, SAL had laid the groundwork for a successful future. The future however meant new cars to replace some of the cars that had been worn down during the war years. Many streamlined cars built and advertised to last 25 years were being demoted to second runs after just seven.

To replace them, SAL placed a large order for coaches, diners, baggage dormitories, and observation lounge cars with the Budd Company in April 1945. One of these was the Historical Society's Dining Car #6113. Wear and tear was one reason for the upgrades, competition from automobiles and airplanes, and advanced technology was another. Another concern was public relations. Wartime passengers forced to ride the rails due to gas rationing had suffered at the hands of overburdened trains.

Ordering the equipment was the easy part. Waiting for delivery was often challenging. The main culprit causing the delays was the shortage of materials and engineering changes. Large orders from several companies coupled with a lack of standardization and the demand for custom cars added to the delays. While waiting for their new cars, SAL used what it had on hand to field a full complement of trains. By July 1947, all of the coaches, diners, baggage dorms and observational lounge cars had been delivered to SAL.

Despite the inauguration of new streamliners, passenger revenues for 1947 dropped 25 percent. More people were using their cars, military traffic was down and the airlines were increasing their competition. Yet SAL's passenger business picked up in 1948 and continued to increase through much of the 1950s. Overall, the number of passengers carried was up 200 percent over 1940 levels. The *Silver Meteor*, with its high-speed travel and luxury amenities, such as the observational lounge car, became SAL's most popular and highest revenue train. It was their flagship train that remained virtually sold out in any season. Though many railroads significantly reduced or curtailed their passenger service altogether, SAL's *Silver Meteor* trains remained popular and profitable because unlike many other carriers, passengers had not

abandoned the Florida trains. Instead, aggressive marketing, including off-season hotel packages, ensured SAL trains a steady stream of the best customers - long-haul passengers. Another reason was the fact that SAL was traditionally indulgent of their passenger trains, understanding their value as public relations tools.

The *Silver Meteor* and the Historical Society's dining car #6113 remained SAL's flagship through the 1950s and even through their merger with ACL in 1967. When the trains became part of newly formed Amtrak in 1971, Amtrak retained the *Silver Meteor* trains and several are still running today.

A BACKGROUND ON DINING CARS

The SAL dining car was an integral member of SAL's streamliner train service operating between New York and Florida. It was composed of a forty-eight-seat diner and a full pantry and kitchen. Its sleek interior and exterior design and advanced mechanical systems were very popular with the traveling public and helped revitalize passenger service after World War II.

The diner was one of the last major classes of passenger cars to come into general use. Though a great favorite with the passengers, the railroads viewed it as a costly burden. It was the heaviest and most expensive car in regular passenger service. It rarely made a profit and often incurred substantial losses. Yet it was a service first-class travelers expected and that railroads became obliged to maintain.

Dining cars are a marvel of compactness and efficiency. There is little unused space with cabinets and lockers occupying every corner storing an array of tableware and provisions. Since the car also carries a fully equipped kitchen and pantry, dining room furniture, heating, lighting and ventilating fixtures, it is evident why the car weighed and cost more than the other passenger cars.

Like the lounge cars, diners were originally intended for first-class travelers. The great majority of railway travelers never patronized the diner. Passengers could pack their own meals, buy food at the station before departing, or pick up snacks at station stops along the way. Those that did frequent the dining cars came to expect good food and service.

The dining car's poor earnings performance continued even when the cars were well patronized. High fixed costs and a limited market were the basic reasons for their fiscal difficulties. A sizeable crew, generally ten persons, was necessary to serve forty to fifty patrons efficiently. The crew had to be housed and fed throughout the trip, and unlike restaurants, the railroad could not use part-time help. Free meals to the rest of the crew created an additional expense, as did unused or spoiled food. Moreover, the clientele was limited to those aboard the train. Only the first-class passengers could be counted on to patronize the diner. However, the losses came to be justified as a necessary business expense. Some railroads, including SAL, began to introduce cost-cutting methods in their dining cars. One of the most successful methods was through buying food at wholesale. Food preparation was another area in which costs were cut, and when frozen food became a commercial reality after World War II, railroads quickly adopted it. More careful scheduling achieved maximum utilization of each dining car. Technical improvements in dining-car kitchens also helped achieve savings. Some of these included electric refrigerators, dishwashers, garbage disposals, and automatic door openers that eased the way for waiters into and out of the pantry.

Despite the cost-cutting methods, the railroads still had difficulty covering their dining car costs. Labor was the largest single operating cost, and historically it rose faster than any other. In the twelve years between 1937 and 1949, the wages for cooks doubled, while those for waiters tripled. The dining car was labor intensive and the only way to reduce the work force was to change over to lunch-counter cars or self-service grills, but this was not an acceptable alternative on first-class trains such as SAL's *Silver Meteor*. Though they continued to lose money on the dining car, the railroad chalked up the loss to good public relations.

In 1947, when SAL received their new Budd Company built dining car, segregation was still in force in the South, and nowhere was the assault on the dignity of the African American passenger more obvious than in the dining car. These instructions from a SAL dining car department manual illustrate the nature of the problem:

Serving Meals to Colored Persons - Portieres are to be hung between stations one and two at all times between 6 a.m. and 10 p.m. These curtains are to be pushed back against the wall until occasion arises for use of same. You are provided with a "Reserved" placard, which is to be placed on the two stations nearest the buffet at the beginning of the meal. These two tables are to be reserved for colored passengers until all other seats in the dining room have been occupied. If no colored passengers have presented themselves, the "Reserved" cards may be removed and the tables used for white passengers. No white passengers are to be allowed in the space reserved while colored passengers are being served therein. If while the first two tables are occupied by white passengers, as colored person should present himself and request service, he is to be informed that he will be called as soon as seats reserved for use of colored passengers are vacated. When such seats are vacated, the colored persons will be called and served in the space set apart for them. No white persons are to be allowed in such space while colored persons are to be served therein ... Colored nurses accompanying white families may be seated in the dining car at the table with such white families for the purpose of taking care of children. It is understood that in such cases, no other person is to be seated at the table with the colored nurse.

The irony was that the crews responsible for the enforcement of these regulations during the period in history were composed predominantly of African Americans themselves. In many of the trains, the coach car that carried the baggage was designated for the African Americans. The crew that could not fit in the crew dormitory slept on the tables in the diner. When segregation officially ended in the mid-1950s, the crew used the coach car with the baggage and African Americans sat in the regular coach cars, though they were often still separated from the white passengers.

A BACKGROUND ON LOUNGE CARS

In 1887 the luxury train was introduced. A luxury train was a unified series of cars designed to serve travelers' needs in the same way that a hotel or transatlantic liner did. It was a single

establishment with the cars linked by diaphragms and vestibules, allowing the passengers to walk safely through the entire train. These new trains were faster, more exclusive and cost more. It became the function of the lounge car to provide an inviting destination for passengers who were walking around, a clubroom where anyone might sit. Comfortable chairs and side tables were the customary furnishings. Full lounge cars were rare because they were not revenue generating cars -- the seats were not sold; they were free to all passengers who had bought space elsewhere on the train. The return of alcoholic drinks in 1933 led in many cases to part of the lounge car being converted into a tavern area with a bar. The quiet of the original lounge car gave way to a more tavern-like conviviality.

SAL's 1947 observational lounge car was built as a combination observational lounge and bar area separated by the hostess room. The hostess was in charge of arranging entertainment for the passengers, which often consisted of organizing various card games.

SAL's observational lounge car was a popular component of its streamliner train service operating between New York and Florida. It was composed of a twenty-four seat observational lounge section and a thirty-four seat tavern area with a full bar. Its sleek interior and exterior design and advanced mechanical systems were very popular with the traveling public and helped revitalize passenger service after World War II. However, despite their popularity, lounge cars were not found on every train and every railroad. They were a relatively rare class of car even compared with sleepers, and they never represented more than 2.5 percent of the total passenger car fleet.

The observation platform was another attraction that became an expected part of the lounge car. The platform came to the lounge car after first appearing on private or office cars, though no observational lounge cars were in service before the coming of the luxury trains in the late 1880s. Open-platform observations continued to be built until about 1930, but their popularity had begun to wane some years earlier. It was argued that they were uncomfortable and unsafe, and it was considered wasteful since it was so often unusable. In 1909 the solution was to enclose the end platform, thus the sun parlor or solarium car was developed.

In the late 1930s-1940s style-conscious age of streamlining, the observation car's appearance experienced a radical change. The open-platform style was considered obsolete, while its blunt-end counterpart, the sun parlor, was dismissed as unattractive. The observation lounge car became the main form where a designer could display his talents. The observation end could be molded into many shapes. The basic bullet or swallowtail configuration became the most popular. This form had been used some thirty-five years earlier by F.U. Adams. Adams' streamliner was a wooden prototype, but its appearance was very similar to those created by the aeroflow school. SAL's 1947 observational lounge car had the rounded swallowtail end with a very aerodynamic streamline appearance.

The lounge car fulfilled the railways' promise of luxurious travel. Although not everyone could afford traveling on a train with an observational lounge car, the lounge car did bring the more distinguished comforts of the private car within the budget of the middle-class traveler.

MODERNE STREAMLINE

Moderne streamline represents the later development of the Moderne style (1930-early 1950s), the period when the emphasis on streamlined industrial products passed into architecture and structures for transportation, including airplanes, automobiles, ocean liners and trains. The idea

of streamlining derived from scientific observations of movement. Designers were interested in shapes that encountered minimum resistance when in motion, reflecting speed and efficiency that soon became symbols of modernity. The airplane, with aerodynamically contoured forms, was the most important stimulus for this changed aesthetic. Other transportation machines, such as the torpedo-shaped dirigible and ocean liners with sleek hulls also provided stimulus for the changed aesthetic. Trains and automobiles moved away from boxy assemblage of parts to more cohesive monocoque forms. And along the roadways, service stations, gas pumps, bus stations, movie theaters, car dealerships, motels and diners took on the accelerated characteristics of the Moderne streamline style.

Technological change also made possible the appearance of the rounded, contoured, streamlined shape. New body die-pressing machines capable of creating more complex and modeled forms, and new materials such as stainless steel and polished flat sheet aluminum came on the market. The need to stimulate the economy further promoted the idea of yearly changes, thereby placing the industrial designer in a position of great influence. The fully stainless steel kitchen in dining cars was a part of the streamline movement.

The American entry to the streamlined rail age came on May 26, 1934, with the Budd Company built *Zephyr*. The train traveled at a top speed of 112 mph from Denver to Chicago in order to appear as the grand finale of the *Century of Progress Exposition's* railroad pageant, "Wings of a Century." Crowds poured from the stands to mob the train, which had cut 13 hours off the Denver to Chicago.

The railroad industry in the 1920s and early 1930s had a reputation of being resistant to change. However, with passenger revenues down by one-third in the early 1930s (due mainly to the Depression and increased automobile and airplane travel), some train builders, such as the Budd Company, saw the need for new tactics, an appeal of romance and glamour, to bring back passengers. By the early 1940s railroads with new streamline cars reported significant increases in passengers due mostly to the new, faster, and more comfortable streamline trains. These streamliners remained popular and continued to be built throughout the 1940s and early 1950s. In fact, SAL's 1947 dining car continued to serve as one of the most favored cars on SAL's popular *Silver Meteor* New York to Florida trains (1947-1971), and later on Amtrak's New York to Florida trains (1971-1977).

A HISTORY OF THE EDWARD G. BUDD MANUFACTURING COMPANY

In 1912, Edward G. Budd started the company in Philadelphia with 13 employees and \$100,000 in capitalization, three-fourths of which he himself had supplied. He challenged the wood-fabricating establishment of his day, the carriage makers and carpenters by working for the adoption of all-steel automobile bodies. In the late 1920s, Budd had become infatuated with stainless steel, a non-corrosive very high-strength material suitable for both framing and skin covering. The one problem with stainless steel was joining - regular welding made it lose its strength and non-corrosive qualities, and riveting damaged its edges. That was until a Budd Company engineer, Col. E.J.W. Ragsdale, invented and patented a scientific electric welding process for stainless steel. The Budd Company's claim to fame in the industry was this patented "Shot-Weld" technology, which allowed for the level of fabrication necessary to construct a rail car without damaging the somewhat brittle stainless alloys then available. This permitted the Budd Company to use stainless steel for the entire structure not just a "pretty

skin" over a mild steel body as competitors Pullman and American Car & Foundry ultimately did.

In 1934, the Budd Company pioneered the production of a much lighter type of locomotive-hauled passenger car. These light weight cars had load-bearing sides of welded corrugated stainless steel. The earlier riveted sides and clerestory roof were replaced by a sleek, bright car, 85' long with large picture windows, riding on two four-wheeled trucks. The weight came down significantly, despite the fitting of air-conditioning, reclining seats, electric ice coolers and other amenities. Budd's Hunting Park Avenue plant in Philadelphia built the pioneer *Zephyr*, an entire three-car train weighing no more than an ordinary Pullman car. It was the first train powered by a locomotive diesel engine and attained a speed of 112 mph. Prior to World War II the Hunting Park Avenue shops rolled out families of gleaming *Zephyrs*, *Rockets*, *Silver Meteors*, *Champions*, and *El Capitans* for various railroads. All of these were stainless steel cars that could travel at high speeds.

The design of the *Zephyr* drew upon the earlier Budd Company experiments but went far beyond them in its merging of contemporary aeronautical theory and function. The man most responsible for the design of the *Zephyr* was the chief designer of Budd's high-tensile division, Albert Dean, a graduate of M.I.T.'s aeronautical engineering program. He was assisted by his brother, Walter Dean, a mechanical engineer with aviation design experience. Also assisting was the noted Philadelphia architect Paul Philippe Cret and his associate John Harbeson, who designed the interiors and made suggestions for the exterior, including the raised horizontal fluting, or speed lines, in the stainless steel cars. The Cret-Harbeson interiors were modern luxury with silk drapes, spun aluminum and stainless steel seat and table bases, Formica tops, Agosote paneled ceilings, and indirect flush-mounted lighting. Due to the great success of these cars, Cret and Harbeson were called on numerous more times to direct the interior designs of Budd Company built passenger cars.

The higher speeds of new trains had brought a need for improved braking. The Budd Company pioneered the railway disc brake just before World War II. Disc brakes eliminated the undesirable characteristics of iron-on-iron wheel-tread brakes and provided smoother, more efficient stopping. After the war, a high percentage of railroads adopted this major innovation for mainline passenger trains.

To a great extent, Budd's designs brought about the revival in rail car construction in the post depression era. When SAL's Budd-built *Silver Meteor* began service in 1939-1940, competitors FEC and ACL were caught off guard as passengers flocked to the new SAL trains and newspapers railed at the other lines for outdated equipment and the service they provided. This ultimately forced FEC and ACL into the market for new equipment. Without hesitation they both went with the new stainless cars.

During the war, Budd turned out huge quantities of military equipment. After the war, they immediately returned to building train cars due to the large number of orders from railroads returning to their pre-war freight and passenger service. In many respects, the Budd Company had its finest hour from the late 1940s to the early 1950s. There were great technological advances during the war that the Budd Company was able to apply to their new train cars. The Moderne streamlined style remained much the same, but the trains' structure and inner technological mechanisms greatly surpassed pre-war trains. SAL's 1947 dining car was part of the *Silver Meteor* family and possessed both the style and advance mechanical systems of the

Budd Company's most exemplary cars. The Budd Company continued to build trains for several decades and in the 1970s they helped revitalize the national rail passenger system by supplying Amtrak with modern Amfleet cars.

PAUL PHILIPPE CRET - THE MAN BEHIND THE DESIGNS

Born in France in 1876, Paul Philippe Cret began his formal architectural training at the Ecole des Beaux Arts in his native City of Lyons and subsequently won a scholarship to the Paris Ecole des Beaux Arts as a French Government Fellow (1898-1903). In 1903 he came to the United States to accept the position of assistant professor of architectural design at the University of Pennsylvania where he remained on faculty until 1937. After leaving the University of Pennsylvania, he formed an architectural firm as primary partner with associates John F. Harbeson, William J. Hough, Roy F. Larson, and William H. Livingston.

His professional career was divided between scholarship and the design of many acclaimed buildings and structures. Among his best known architectural works are the Pan American Union Building, the Federal Reserve Board buildings, and the Folger Shakespearean Library in Washington, D.C., the Detroit Institute of Art, the University of Texas Library and other campus buildings, the Valley Forge Memorial Arch, the Delaware River Bridge at Philadelphia, and the Hall of Science Building for the Century of Progress. A classicist by instinct and training, Paul Cret was also called a realist who saw no incompatibility between his rationalization and his desire to create beauty. Throughout his career he won numerous honors and awards and in 1938 the American Institute of Architects presented him its highest award, the Gold Medal.

In the 1930s and 1940s Cret frequently worked on engineering projects for private companies in addition to consulting jobs for the U.S. Army Engineers Office at Pittsburgh. He also worked with well-known engineers on power generating station and with Budd Company constructors of streamlined trains, often in collaboration with his associate John Harbeson. The University of Pennsylvania's Paul Philippe Cret papers contain several letters of correspondence between Paul Cret and the Edward G. Budd Company discussing designs for the trains as well as one sketch of a train car interior. One of the most interesting letters was written by Edward G. Budd to Mr. Paul P. Cret dated March 4, 1939. The letter states:

Our Mr. Pond has come in from the West and tells me he had a long conversation with Mr. Albert Kahn of Detroit, who is one of those architects for whom we have great respect. Mr. Kahn has ridden the Denver Zephyr recently and was most emphatic in his praise of it, not only for its good riding and comfortable qualities, but for the artistic treatment on the inside. He inquired who the artist was, and after some difficulty found it was Paul Cret. To use his own words, he said he "took off his hat" when he was told of your connection with the train and expressed the opinion it was just the treatment he thought was correct. I am happy to be able to pass such a comment to you.

The Cret-Harbeson train work designs were so popular that the Budd Company continued to use their designs for their future streamline train cars. Though the furniture and decorations

were removed from the dining car, the structural forms and interior plan that Cret and Harbeson designed for Budd Company streamliners remain.

HOW THE PASSENGER CARS CAME TO BOCA RATON

In 1985 the Boca Raton Historical Society (BRHS) completed an award-winning restoration of Boca Raton's original Town Hall. Its next project, the dilapidated 1930 Florida East Coast (FEC) Railway station, galvanized preservationists, community leaders and railroad professionals into an enthusiastic team with an unbeatable determination. The result of their efforts was a fully restored, pristine train depot, flanked by two streamline rail cars, a little red caboose and a 1930s steam engine.

Bill Boose, a local attorney, recalls how the streamline cars came to reside at the Boca Raton train station. According to Mr. Boose, in the mid-1980s he and a group of investors called "The Orange Blossom Special Partnership" purchased the old West Palm Beach train depot. They planned to develop the station and surrounding area and operate a dining train that would travel from Orlando to Miami, via West Palm Beach. At this time, Amtrak held an auction of its surplus cars at a compound in Los Angeles. Some of the streamliners were retired from the Orange Blossom Special line that ran from New York to Florida. One man, acting as an agent for the partnership successfully bid on 15 of these cars "before we were ready to own them!" says Mr. Boose. The group could either shoulder the cost of moving the cars from California or wait for Amtrak to transport them. They chose the latter. Two cars ended up vandalized and burned but the remaining 13 made it to a train yard at 25th Street in West Palm Beach. The group was confronted with the problem of finding a place to store 15 train cars, each weighing about 100,000 pounds. Two cars were donated to the Gold Coast Museum in Miami, while some others were sold to private investors.

Instead of developing the West Palm Beach train depot, Mr. Boose and his partners sold it to the City of West Palm Beach. Mr. Boose credits historic preservationists Katharine Dickenson and John Johnson with obtaining state funding to begin restoration of the West Palm depot. It received another state grant in the 1990s and was fully rehabilitated and remains a successful public preservation project in operation for Tri Rail and Amtrak service.

Knowing that the BRHS was in the midst of restoring Boca Raton's historic depot, Mr. Boose contacted BRHS trustee George Elmore to discuss the remaining streamline cars owned by the Orange Blossom Special Partnership. In early 1986, the two men agreed to purchase two cars from the partnership and donate them to the Historical Society. Despite the monumental task at hand -- restoring the depot -- members of the BRHS board and staff agreed that train cars would add an interesting dimension to the site. Louise Yarbrough, who worked as an administrator for the BRHS at the time says, "The cars would not only enhance the look of the depot, but we felt they could be used as rental space for special functions to generate revenue for the organization." Anne Merrill Hazel, who was BRHS Executive Director at the time, agreed, "We thought that passenger cars would make an educational and inspiring museum. We pulled in everybody who knew anything about trains to help us. The whole community supported the effort to bring trains back to Boca, as the revitalization of that corridor -- from old Town Hall to the Depot -- was the lynch pin of downtown redevelopment."

It was pure serendipity that John Nash, a retired Senior VP and Chief Operating Officer of the New York Central Railroad living in Boca Raton, learned that the group needed his expertise. He agreed to help manage the complicated logistics of bringing the streamline cars to Boca

Raton. By now the cars had been relocated from West Palm Beach to Charleston, West Virginia, for storage purposes. Mr. Nash inspected the cars and found that they were in acceptable condition to proceed with restoration. Through his contacts in the rail industry, John Nash found a repair shop in Waycross, Georgia, where the interiors were stripped of badly damaged furnishings and their stainless exteriors polished. This was all completed at no cost to the Historical Society through the generosity of the CSX.

The CSX railroad delivered the cars to Boca Raton, using FEC tracks. But the FEC would not allow a spur to be laid in order to roll the cars off the tracks at the depot (the company did, however, donate two track panels for the cars to rest on). An engineering and crane company was tapped to move the cars from an existing railroad spur several blocks north of Camino Real to their current resting spot. According to John Nash, "It was quite a big production, the company had never moved train cars before, and we weren't certain if the job would run smoothly." Large cranes lifted the cars from the spur onto flatbed trucks and transported down Dixie Highway. Traffic was stopped, and with the help of many, the move was a success. "I remember these two huge silver cars arriving. It took my breath away," said Anne Merrill Hazel, "they were nearly as big as the Depot. So many cars, parents and children stopped to watch the process of the cars being lifted off the trucks and onto the track panels. It was truly remarkable."

*The streamliners are
lifted from trucks
onto their new beds
at the FEC depot in
1986.*

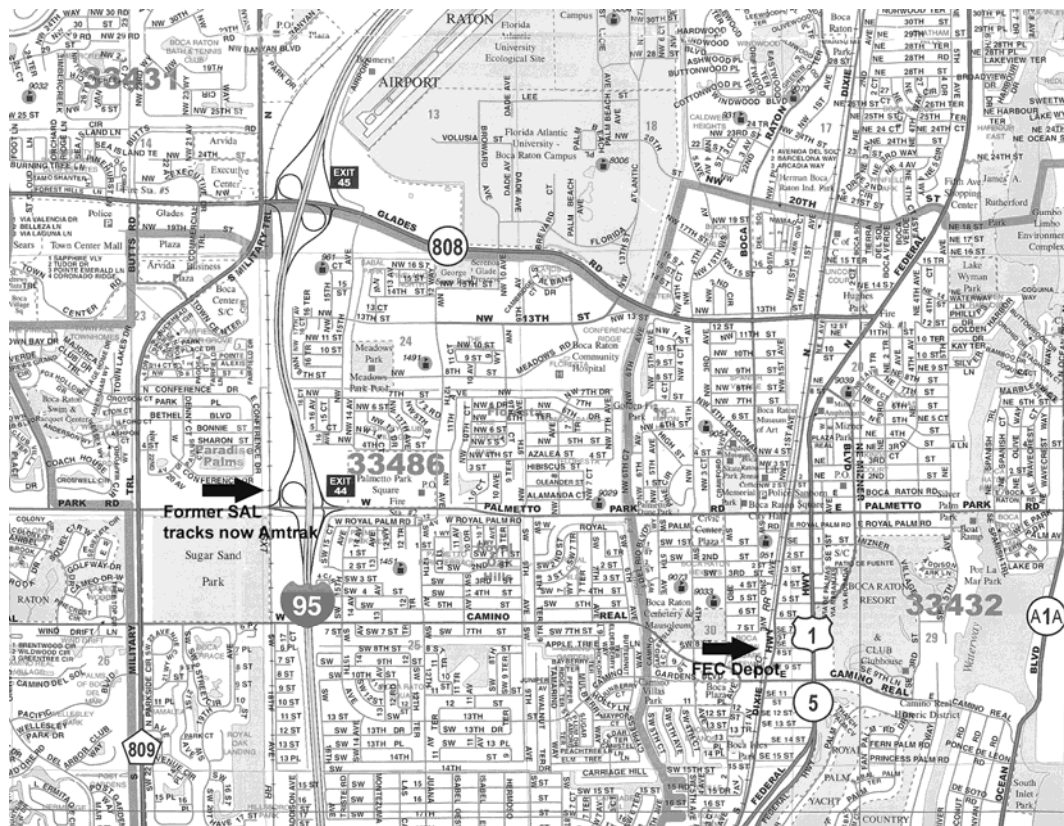


As the passenger cars were finding their way to Boca Raton, the BRHS was searching for a caboose and an engine to enhance the depot. In early 1986, Anne Merrill Hazel called a good friend at Seaboard Coast Line Railroad Company and asked if he could help locate a caboose, and "Seaboard kindly gave us the little red caboose to complement our collection." The Sun-Sentinel reported that the caboose's "... four block trip (from the railway spur down Dixie Highway) was estimated to cost \$3,000" (October 12, 1986). BRHS Trustee Meeting Minutes (September 24, 1986) state: "We are in the process of searching for a steam locomotive, and an ad is currently running in the latest issue of Railway Age" (magazine). An engine was found at a train museum in Washington, Pennsylvania, and Mr. Elmore contributed to its purchase. The engine was in rough shape when it arrived in Boca Raton. "It was in pieces -- I was flabbergasted," said John Nash, "We had expected the engine to arrive in one piece." Through his and the efforts of others, the steam engine was reassembled. Mr. Nash tracked down its impressive brass bell, which had mysteriously disappeared during transport. "I had seen the bell in photographs that were taken prior to shipping so I knew it existed." The bell was eventually welded to the engine. By November 1986, the cars, locomotive, and caboose were

all resting on track panels to the north and south of the depot. They were all in need of major refurbishment. The Historical Society had a great deal of fundraising and work ahead in order to complete this task.

Support to bring the cars to Boca Raton came through railway professionals, historic preservationists, community leaders and countless railway enthusiasts. Unfortunately the initial enthusiasm for the project was not enough to keep the momentum going. As custodian of two historic buildings, operating costs were escalating for the BRHS. January 27, 1988 Trustee Meeting Minutes state: "renovation of the cars is very expensive and not in the immediate plans for the Society." As the 1980s rolled into the 1990s, the interiors of the cars remained unfinished and the exteriors were suffering in the fierce South Florida sun. It was at John Nash's urging in 1995 that the cars were once again given a much-needed exterior facelift, the caboose and engine were also sandblasted and repainted. Yet funds to rehabilitate the interiors were not available.

By 2000 the Boca Raton Historical Society launched a full-fledged campaign to engage the community in *All Aboard the Boca Raton Express*. The Boca Raton Magazine, in celebration of its 20th anniversary, the Design Center of the Americas (DCOTA), Dupont-O'Neil & Associates, and others joined with the Boca Raton Historical Society to bring the streamline cars back to their original state.



The streamliners originally operated on the SAL (now CSX or Amtrak tracks) west of today's I-95. However, they now reside at the Boca Raton FEC (Florida East Coast RR) station.



FEC and streamliners, 2006. Photo by Peter Lorber

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