

INSTITUTE OF CURRENT WORLD AFFAIRS

ERL - 25
How High the Moon?

1828 Delaware Street
Berkeley, California
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Mr. R. H. Nolte
Institute of Current World Affairs
535 Fifth Avenue
New York, N. Y. 10017

Dear Mr. Nolte:

"This is foreverland."

a Lieutenant Colonel at Patrick Air Force Base
in 1962, quoted in America's Race for the
Moon - Project Apollo by the New York Times.

Brevard County is on the east central coast of Florida - east of Orlando, between Daytona Beach and Vero Beach. It's a strip of swampy nowhere with a humid, subtropical climate, 72 miles long and nearly twenty miles wide at the southern end. In the central and northern part of the county it is sliced into narrow bands by the Intracoastal waterway - the Indian River, and the Banana River, which is really a lagoon.

It was the kind of place where nothing ever happened. While oranges and mosquitos grew in profusion, local folks fished in the rivers, swatted flies and swam the warm Atlantic beaches. Tourists heading for the Miami resorts drove through on the main north south road, two lane U.S. 1 which wound lazily past prim white tin roofed houses on the banks of the Indian River. Ferries and barges moved people and oranges from the mainland to the beaches. After the Second World War, the Navy's then-new Banana River Air Station out on Cape Canaveral was turned over to the Air Force for testing long range guided missiles. Renamed Patrick Air Force Base, but still known unofficially as the Bug Capital of the World, it became the headquarters of the Air Force Missile Test Center and the launch site for the Eastern Test Range.

Despite the occasional rocket firings in the swamp, Brevard was a typical rural southern county. The total population of the county in 1950 was 23,000. The three largest incorporated cities - Melbourne, near Patrick AFB with 4,223, Cocoa in Central Brevard with 1,245 and the county seat, Titusville, in the north, with 2,604, divided the county into commercial zones of influence. Although the residents elected a substantial list of county officials including County Commissioners, Sheriff, Clerk, Judge and Surveyor, county government served chiefly to administer the regional recreation programs. Neither the cities nor the county had a zoning code, or even a system of building permits to indicate the location of new construction. Sewage was handled privately, mostly by septic tanks. The public school system, with the county as the district unit, was run by an appointed superintendent who had an assistant, a

bookkeeper and a warehouseman to help him. They all worked out of a big room at the top of the old courthouse in Titusville. There were barely five thousand children in the county's 23 segregated schools. Total property value in the county was assessed at less than twenty three million dollars.

As the Air Force missile program expanded it brought a boom in employment which was felt as far away as Orlando, but was strongest in southern Brevard, around Melbourne. Jobs brought people who needed housing, services and schools. Although the growth was startling, no particular attempt was made at any local level to analyze it or predict its implications. In some instances it was reported without explanation. In 1955, for instance, the statistician of the Florida State Department of Education was so surprised to see a leap in school enrollment of 1,125 students, he wrote back to the Brevard Superintendent of Schools. "Does this," he amicably inquired, "sound reasonable?"

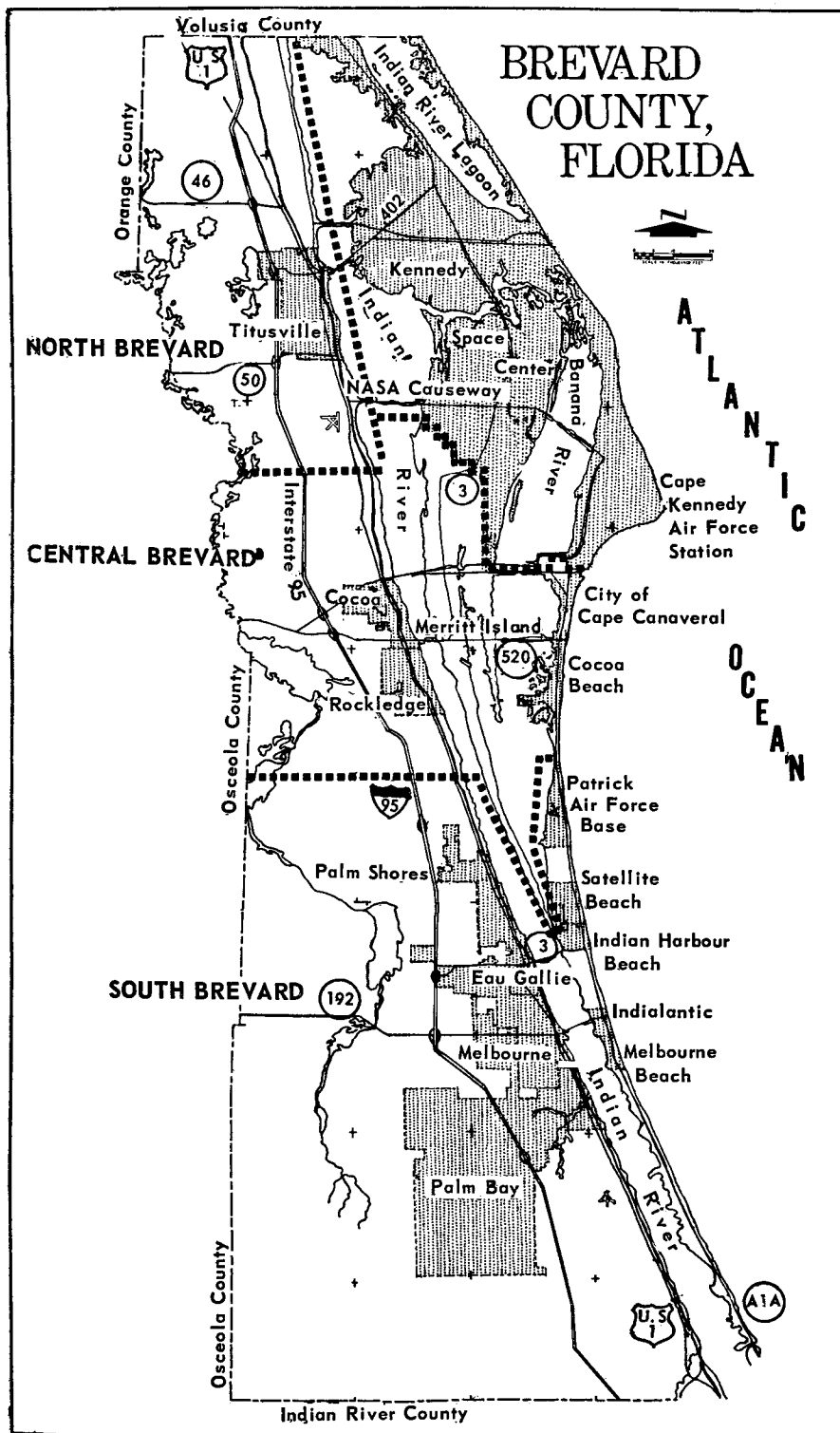
When NASA was born, in October 1958, the Missile Firing Laboratory on Cape Canaveral was part of the Development Operations Division of the Army Ballistic Missile Agency which, in turn, was part of the Redstone Arsenal. Dr. Kurt Debus, one of the Peenemunde scientists, ran the MFL. He reported to Dr. Werner von Braun and General Medaris in Huntsville, Alabama.

Although Dr. Debus' staff numbered less than 300, the support facilities, and construction requirements, for launching the Redstone, Jupiter C, Jupiter and Juno missiles, subcontracted out to industry, had already boosted the population of Brevard County to 91,000.

The National Aeronautics and Space Administration is a distinctly peculiar administrative agency. Political post-Sputnik considerations had more to do with its shotgun birth than scientific, military or engineering agreement on space goals and programs. Although formally a civilian agency, NASA absorbed or cooperated with the military space and missile programs. It is larded with military personnel, preoccupations, program procedures and jargon.

By 1960, when the entire rocket development program was transferred from the Army to NASA, Brevard's population was up to 110,000. Later that year 5,000 civil servants were transferred from Alabama to Florida. The launch center, however, was not administratively separated from the renamed Marshall Space Flight Center at Huntsville until 1962.

Neither the Air Force, which was still running its Missile center, nor Dr. Debus' Missile Laboratory displayed much concern for the economic impact their projects were having on Brevard County. New "cities" were incorporating along the beaches parallel to the testing sites - Satellite Beach, Rockledge, Indialantic and others. The county devised a building permit system. The school system applied for federal impact aid, and added a classroom a week.



In May 1960 President John Kennedy set the United States the task of "achieving the goal before this decade is out of landing a man on the moon and returning him safely to the earth," and Project Apollo, previously hinted at as the exotic Project Nova, was officially underway.

Getting there, as the slogan goes, is half the fun. Still the first stage of the trip is leaving somewhere else, in the case of a lunar landing, men leaving earth by rocket. Within weeks after the President's dramatic speech which included the announcement that he would ask for an additional \$7 to \$9 billion for space in the first half of the sixties, James Webb, NASA Administrator requested an analysis of launch requirements for the early lunar landing program.

Dr. Debus, now titled Director of Launch operations, and General L. E. Davis, Commander of the Air Force Missile Test Center replied promptly. Their joint report considered the economic and engineering projections for eight sites - Cape Canaveral on shore, Cape Canaveral off shore, Mayaguana, Cumberland, Brownsville, White Sands Missile Range, Christmas Island and Hawaii.

Mayaguana, Christmas Island and Hawaii were too expensive. Brownsville and White Sands had overflight problems. In addition to its low cost estimates, the potential efficiency of using existing technical facilities, and available cheap water transportation, Cape Canaveral had a final advantage, listed in the bulky report merely as "proximity to adequate community facilities - as housing."

After the Washington go ahead NASA spent 60 million dollars for 88 thousand acres of land on Merritt Island at the northern end of Brevard County and took an option on 53,000 additional acres belonging to the state of Florida which lay mostly under the Mosquito Lagoon.

Given the size of the NASA land holdings, and the cost of acquisition, it would have made administrative sense for agency headquarters to be built on the reservation near the launch site. I'm tempted to add costly, especially since NASA's own study indicated there was adequate community support...but that gets me ahead of myself. Besides, the point is that Brevard County's assets were purely technical. They were not political, as were Texas', which had Lyndon Johnson, architect of the space legislation, then Vice President and Chairman of the Space Council and Representative Albert Thomas, Democrat of Houston, chairman of the appropriations subcommittee. Texas got the Manned Space Center Headquarters.

NASA's Brevard Operations in the crucial expansion stage, were still being supervised by the scientists and administrators at the Marshall Space Flight Center (formerly the Redstone Arsenal.). Civil servants were sent down to Florida. The scientists stayed in Alabama. I think it is important to note that the science of the Apollo program was developed elsewhere. The Kennedy Space Center was really nothing more than a giant assembly installation, a stupendous feat of engineering. The blue prints

were fantastic, breathtaking, engineered solutions to problems posed elsewhere by scientists. Accordingly, Brevard County never attracted the resident scientific cadre of Huntsville, or the atomic cities which combined science and engineering like Oak Ridge.

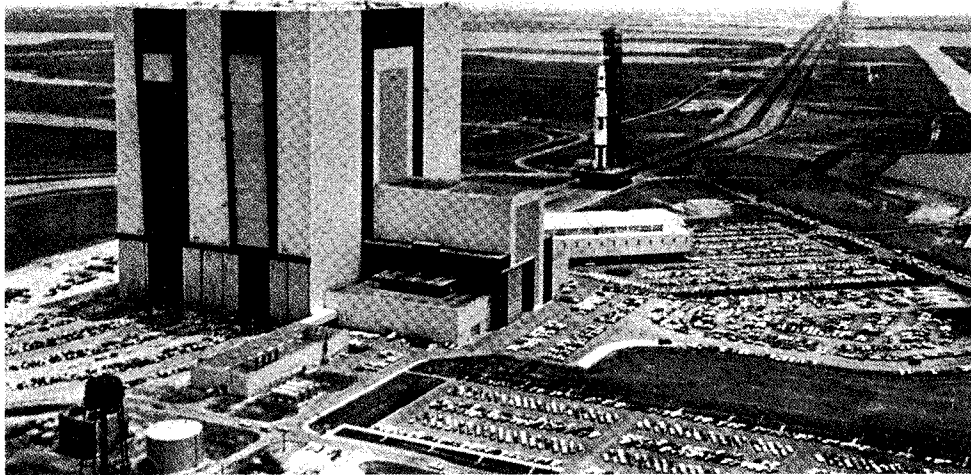
Luckily for NASA, the state of Florida and the then and later residents of Brevard County, a young Titusville lawyer, Max Brewer, who had successfully managed Democratic Governor Farris Bryant's statewide campaign, had taken as his reward an appointment to the Florida State Road Board. Brewer was almost singlehandedly responsible for the lavish state road construction in Brevard in the early and mid sixties. His vision, however, extended beyond the roads.

In the fall of 1961, while NASA was actually purchasing the land on Merritt Island and designing the spaceport, Brewer arranged a series of meetings between Governor Bryant, Dr. Debus of NASA and General Davis of the Air Force which produced the Joint Community Impact Coordination Committee. Its three members, Col. McClellan for the Air Force, former Col. Sibeneichan for NASA and Brewer himself, for the state, had "the two-fold function of informing and coordination." The committee, housed at NASA's expense, staffed by a state-paid executive secretary, had no power, just a lot of function. Five subcommittees were established: roads, mosquito control, schools, housing and higher education. The task of "informing" was genuinely complicated by the absence of rudimentary statistics about existing conditions in Brevard and the four other rural counties of east central Florida in the impact area, and workable projections of needs from NASA.

Scholars, bureaucrats, real estate developers and philosophers spend a lot of time defining new towns. As I've said before, I think there are basically two kinds - satellite towns, near and dependent upon existing urban centers for employment, recreation and population supply, and developmental towns which often serve as regional growth points but are new, usually technologically sophisticated centers, primarily intended to exploit natural or industrial resources. They lure their population to specific jobs. Developmental new towns have other typical characteristics, including very rapid purposeful growth, a tendency to attract a population that initially is (homogeneously) young and fecund.

The precise differences between a town and a city are myriad but usually subtle, and subjective. Often they are a matter of semantics, especially these days when a "community" is anything over two people and some incorporated cities have fewer residents than individual apartment buildings in others.

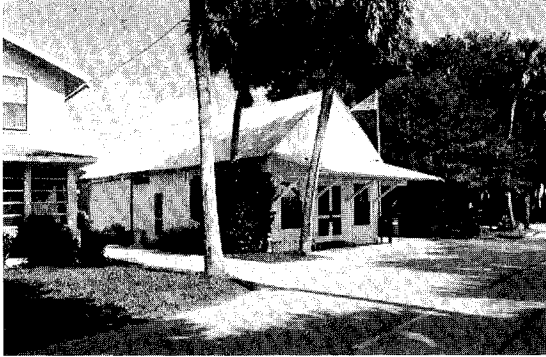
I think NASA's impact created a developmental new town in east central Florida. What I consider a new town is coterminous with Brevard County. The population spurted north as NASA did, bamboo like, with connecting hollow corridors along the main roads, thus creating a situation in which a "new town" contains sixteen cities. Or, is itself a city. Last month the New York Times, in a story headlined "Boom is Busted" realized



A Postcard view of the Vertical Assembly Building

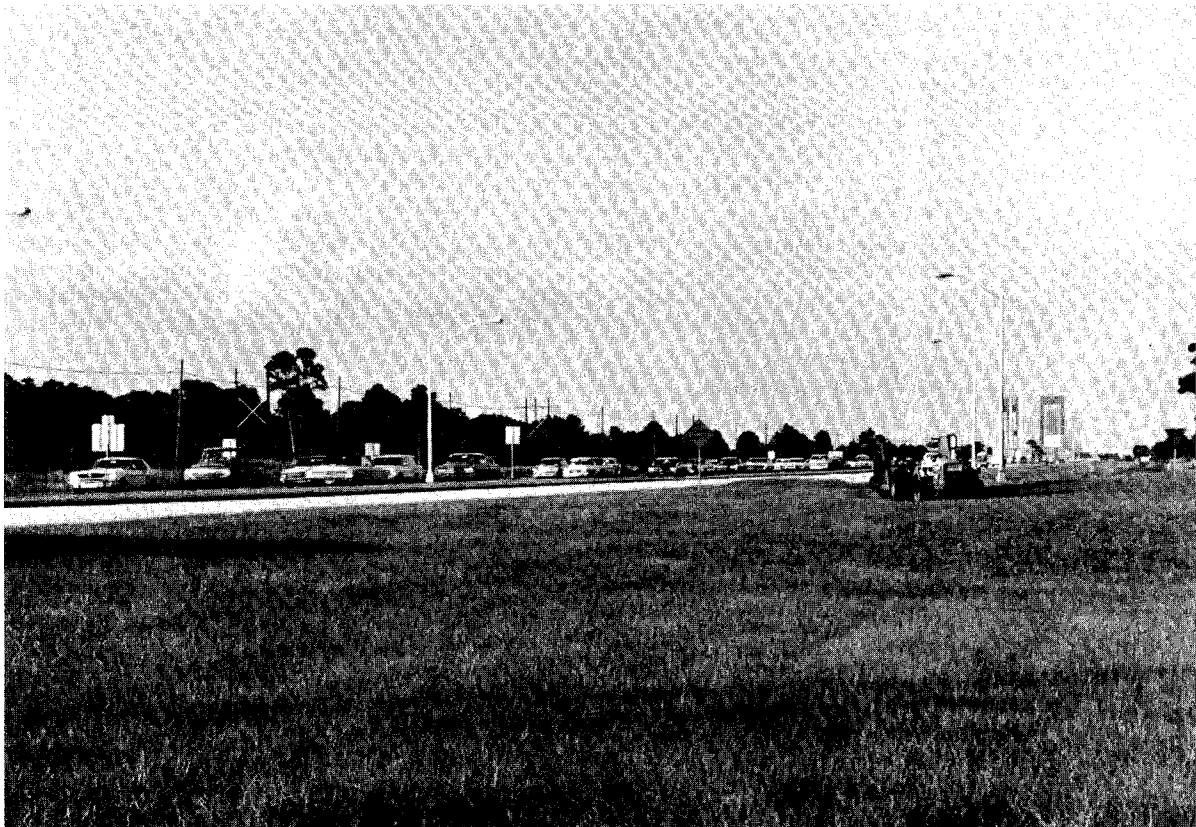
Looming over Brevard County - Space City, U.S.A., is what NASA describes as "one of the wonders of the man made world." A classic, usually trite phrase, it is justifiable when applied to the Vertical Assembly Building, an immense grey and black structure visible across the brackish waters of the Indian River from 25 miles away. It is as much a symbol of Brevard and the technology of our times as the pyramids, those man made wonders of the ancient world, were of Egypt.

The box in which the Saturn rockets are assembled before being moved out to their launch pads is so big it is beyond comprehension. The VAB covers eight acres, its volume equals the combined volume of the Pentagon and the Merchandise Mart. New York's most elegant skyscraper, the Seagram's Building, could slip through one of its side bays. The men who built it worried about fog clouds forming inside. Its innards are endlessly rearrangeable like a giant construction toy. Confused vultures and eagles circle above it as though it were an island.



If you follow winding old U.S. 1 along the Indian River you will see bits of rural Florida that have lingered into the space age. The Sharpes post office is one.

At 4:15 p.m. the outbound traffic at the Space Center is reaching its peak. The VAB, on the right, is about 5 miles away. In another fifteen minutes the road will be clear, meanwhile large white egrets patrolling the canal parallel to the road peer condescendingly at the departing cars.



that the space program transformed the county "from an agricultural area into a sprawling city."

The population went from 110,000 in 1960 to 253,000 on the July day last year when Neil Armstrong and Co. left for the moon. As an index of growth the assessed property valuation by 1969 had passed two and a half billion dollars. The school population has passed 60,000. Moreover, the growth was contained almost entirely within the county limits. To the extent that 94% of the 23,000 people working at the Kennedy Space Center, at peak, lived in Brevard County, the county itself, including all its cities and unincorporated districts, had become a company town. A large one. And, as is often the case with company towns, Brevard's development was affected, I think clearly and adversely, by "absentee ownership."

I took the time and made the trouble for NASA of digging out the original site selection report. It was declassified in 1965 but lost in the elaborate information retrieval system. I waded through hundreds of pages of numbers and terse comments and found that single phrase reference to the civilian aspects of the Canaveral sites.

When the time came for writing brochure history that low priority item was expanded to

"There would need to be a community housing workers and their families, churches, schools, shops, and other institutions and conveniences to attract and retain a technical work force with a heavy percentage of highly trained engineers. But Merritt Island offered a compelling advantage in the opportunity to utilize the superb technical facilities of the Atlantic Missile Range built up by the Department of Defense under the management of the U. S. Air Force thus avoiding costly duplication. Also there were communities on the island and nearby Florida mainland, cities like Daytona Beach and Vero Beach within easy driving distance, capable of absorbing the increasing population."
(From the Kennedy Space Center Story, January 1969 edition)

Yes, there would need to be such a community but, no there certainly wasn't one extant.

The geographic imprecision of the assertion is both amazing and disconcerting. While it was perfectly true that the Cape sites had more community advantages than, say Christmas Island or White Sands, it just wasn't true that Daytona Beach and Vero Beach were either within easy driving distance (unimproved roads) or capable of absorbing the population that Project Apollo would attract. Anyway, the nearest substantial

city is Orlando. If the item had appeared in a press release of the time of the land purchase it might have been explicable, but for it to linger into the 1969 edition suggests that no one living in Brevard proof-read the document.

The same version of recent history goes on to remark snugly that

"From the outset, NASA has steadfastly maintained a good neighbor policy so that some aspects of the Merritt Island economy have remained essentially unaltered even while planners envisage trips to Mars."

The reference is to the leaseback arrangements affecting the citrus groves on the Federal reservation and the fences put around three family plots containing 19 graves.

To suggest that the agricultural economy of Merrit Island somehow remained unchanged in plain and perpetual view of the Vertical Assembly Building, one of the largest structures in the world, while 23,000 people commute through the swampy groves requires tunnel vision. It's true that the oranges continue to grow and are picked, but agricultural employment in Brevard County is now a fading one percent of the total labor force while at peak NASA and the Defense Department employed over 50% of the workers and had a payroll of better than a quarter of a billion dollars a year.

NASA was given no explicit responsibility for its impact anyplace, and it assiduously avoided recognizing much implicit responsibility. Most of its major installations and contractors were located near substantial existing urban centers - Washington, D.C., Houston, Pasadena, California. The notable exception, aside from Brevard County, is Huntsville, Alabama, where the Peenemunde scientists had been living and working for over a decade. By the summer of 1962, Huntsville, the home of the Saturn rockets that were to provide the thrust for the moon missions, had already gotten the message about organizing for the future. The city limit was extended from three square miles to fifty six. The city borrowed enough to finance a 7 million dollar water system, a four million dollar gas system, a 12 million dollar electrical system and spent another ten million on sewers. As was the case in Oak Ridge, Tennessee, a decade earlier, the scientists decided they were home and cast out roots.

Whether the newcomers to Brevard County planned on staying, and surveys suggest that most of them were doubtful in the early sixties, it was clear that needed workers were going to arrive by the thousands, bringing families with them.

In June '62 the Impact Committee sponsored a two day conference at Patrick Air Force Base for representatives of various federal agencies. The guests were briefed on the scope of Project Apollo and the role the spaceport would play in getting to the moon, they were then solicited for advice and assistance. The representatives of the Public Health Service, the Federal Housing Administration, the Community Facilities Administra-

tion and the Urban Renewal Administration sat and listened, presumably awe-struck by the descriptions of science fiction space vehicles and adventures, and by the utter inability of Brevard County to handle the influx of workers.

The Task Force recommendations were rewritten extensively and phrases were polished with extreme care before the final report of the meeting was issued. Reading through layers of bureaucratese one can detect a certain tartness, even in the official version which suggested that: NASA and the Air Force had to produce some timetables and schedules of their road needs and construction plans; it would save time, trouble, and money to develop sanitary districts for water and sewage for the whole county thereby eliminating the need for small private sewage systems; the municipal and county governments in the six-county-wide impact area should get together and with help from the HHFA develop a program for "community improvement"; and last, that something should be done about water conservation and general recreation.

According to NASA publications, the Federal Government "has contributed over \$150,000,000 in grants or loans to develop or support essential facilities and services" in Brevard. A breakdown of that figure shows that considerably more than half the total sum went for roads, bridges, harbors and airport expansion - in other words transportation to and from the Space Center. The second largest amount went to school construction. Various physical planning studies cost \$147,000.

The Impact Committee, informed and coordinated developments in the six county region until it was disbanded in 1965 on the assumption that the "impact" was over. The Committee's concern for coordinated physical planning was taken over by the East Central Florida Planning Council, a new, relatively powerless body which some of its still rural constituent members studiously ignore.

Architectural historian Vincent Scully has characterized the Urban Renewal program in the United States in three words which also aptly summarize the decade of urbanization in Brevard County ... "cataclysmic, automotive, and suburban."

Thanks mostly to Max Brewer, who was killed in an airplane crash in 1966, Brevard County got "laned" a-plenty in a very short time. (Every developing area seems to have a colloquial phrase for highway improvement. At Columbia, in Maryland, the Rouse Company p.r. people talk about "dualizing" of the county roads. The Brevard County equivalent would be to "four lane it." The Brevard phrase is the more flexible than Columbia's because the notion of "laning" is almost infinitely expandable...roads can be two, three, four, five or even six laned till the money runs out.)

Between 1958 and 1968 the number of miles of improved roads in the county rose from 425 to 875. U.S. 1 was four laned straight up through the county, cleverly bypassing most of the existing, but deteriorating "downtown" areas except for Titusville. The AIA road along the beaches

was mightily improved. Interstate 95 was extended, straight and flat down the interior of the county. Causeways were built connecting the beaches to the mainland. NASA built one to its own front door and helped pay for one other, that connected to its back door. Brewer dreamed of a causeway that would have gone up the Indian and Banana Rivers and connected with Merritt Island. The press called it the Banana Split and it was never built.

According to NASA's 1965 personnel survey the issue of prime concern to space workers, chosen from a list of topics including schools, hospitals, housing and extension of utilities, was roads/traffic. A survey done the following year showed that 45% of the families in Brevard owned two cars and only 5% were without an automobile.

The same study showed that 60% of the families in Brevard were then earning over \$10,000, while the national average was 22%, which makes the fact that fully half those cars were less than two years old somewhat less surprising. The traffic to and from the Cape ebbed and flowed relentlessly with the changing work shifts.

The Brevard County natives who had survived the Florida land boom of the 20's were very skeptical of the space agency. While the old timers checked every morning to see if NASA, like Brigadoon, had disappeared in the night, the large profits of the 60's in real estate speculation were made by outsiders who came in, bought, built, and ran. The oldsters stubbornly let their town property run down, loath to improve it against the time when the boom economy would flop and they'd be left with high assessed valuation and tax bills. (Now, with space down and, unemployment up, vacant stores, shops, motels, and houses everywhere, especially in the newer, northern and central parts of the county, the old Floridians are holding tighter than ever and smiling faintly.)

In any event, housing moved north through the county parallel to NASA's installations. Titusville's big surge came in the mid sixties when the NASA causeway opened, making it the closest commute point to the Space Center. Class stratification of housing worked on a north south axis based on distance from the water. The most expensive housing, both individual homes and developments were along the ocean beaches and waterfront property near U.S. 1. The further inland the shoddier and cheaper the housing became. The pressure of the incoming white population pushed most of the blacks, native and newcomers into the hot, western, unincorporated interior of the county and north of Titusville into Mims.

In Appointment on the Moon, Richard Lewis described a typical aerospace subdivision.

...These offered bungalows with two bedrooms or four one bath or two, a carport or two car garage, plaster board walls, asphalt tile floors, all electric kitchens, and 30-year mortgages. The side streets, mostly unpaved, were alive with tots and tricycles. Every house displayed the flag on

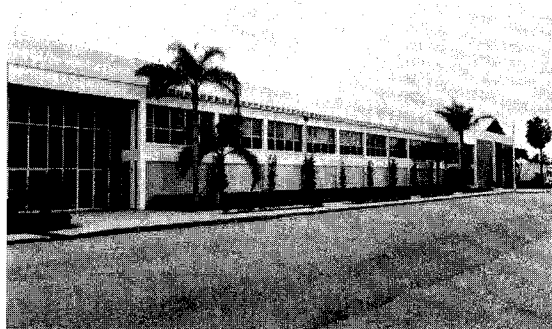
An abandoned house in a black middle class subdivision. The street is paved, but there are no gutters. Notice the flooding from a morning shower.

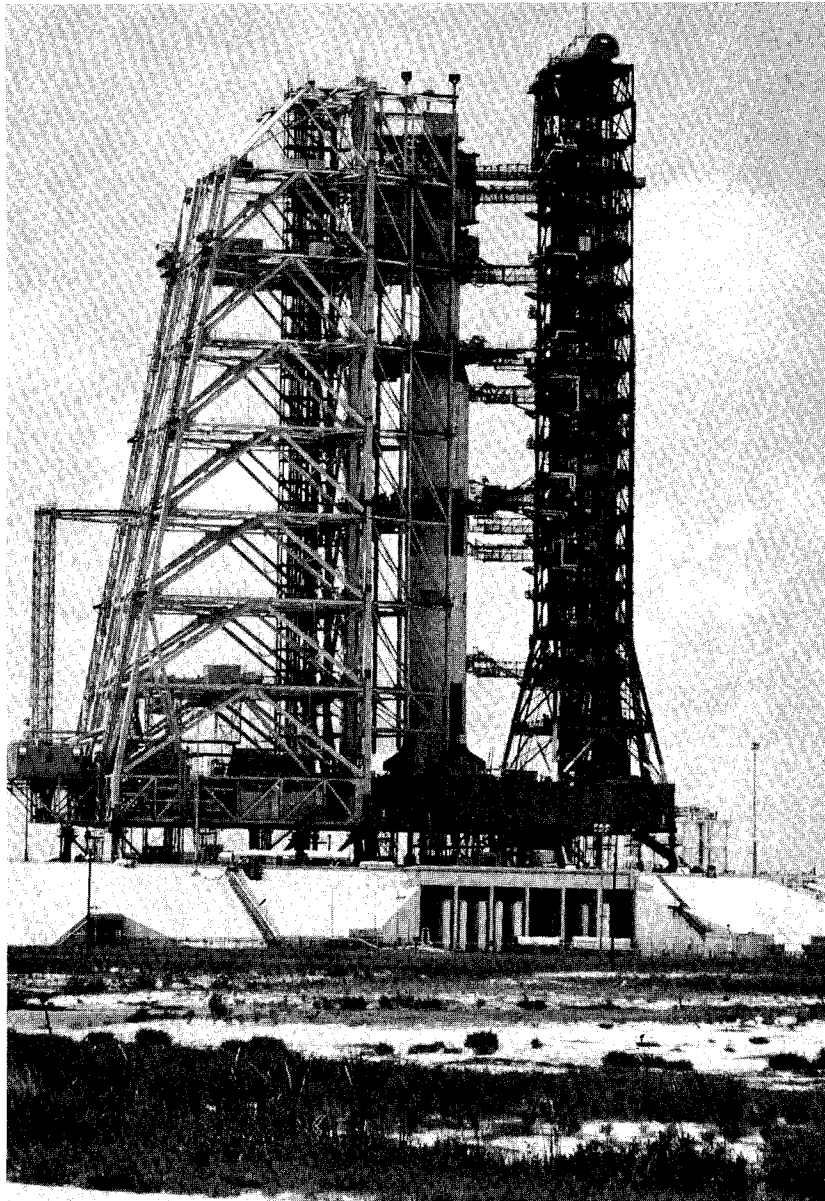


The hub of the so-called "Platinum Coast" is the intersection of three motels in Cocoa Beach.



The First Baptist Church of Merritt Island occupies both sides of a full city block. The church looks like an office building.





Apollo 11 on its launch pad shortly before it took the first men to the moon. Departing astronauts are the only residents of the Space Center, all other personnel commute from beyond its gates. The astronauts have special training quarters and one of the beach houses near the launch pads is also at their disposal.

national holidays and a wreath on Christmas."

Thanks to generous FHA mortgaging and the Florida Homestead Expansion Act, NASA was eventually able to boast that 69% of its employees owned their own homes. Families outside the NASA payroll, particularly those in the service sector of the population, living on fixed income or at least pay scales with less lavish overtime, found suitable housing more difficult to find. Many settled into mobile homes. The parks they lived in varied as widely as did the subdivisions. They ranged from bare lots with minimal facilities - hard standings, electric meters and water lines, to elaborately landscaped parks complete with central laundry facilities, play areas for children, picnic tables, even docks for the residents' pleasure boats. At one extreme there were rusting World War II trailers - hot, narrow shiny little boxes, and at the other were brightly painted modern homes based on modules 12' wide, with airconditioning, full kitchens, two bedrooms, even an awning to shade the area near the front door into a patio. Some residents in the more expensive and elegant parks have planted their homes, and added on additional units creating substantial households. In a few of the parks in Brevard individual lots have been sold to the mobile homeowners, rather than rented. The lots are slightly larger, but the more conspicuous difference is that the units are inevitably fenced.

I was told, although I saw no substantiating statistics, that Florida Highway Patrolmen, who earn considerably less than most spaceworkers, particularly favor living in mobile home parks. I did notice one park in north Brevard, with a lush garden, the toys of school age children, and a veritable honor guard of FHP motorcycles flanking the entrance.

For the mostly young, white, married couples, the suburban pattern of living was both familiar and desirable. 85% of them had children, 42% had three or more. More than half the adults were Southerners by birth, which, incidentally, is true of the entire space program. Roughly as many came to Brevard County from towns of less than 5,000 as came from cities of over 100,000. The majority of the newcomers, however, came from towns and small cities in between in size. Nearly 40% had gone to college and 71% finished high school. A majority had lived at least fifteen years in the town of birth, and had not been notably mobile as adults.

It was efficient and convenient for the arriving employees of space contractors to move en mass into Brevard subdivision. The pattern of employee enclaves is not unusual, particularly in new towns and company towns. In English new towns, like Harlow, in the early years, before there was a range of housing to choose from, employees of arriving industries deliberately chose to live near each other in a single housing area. As the larger neighborhoods developed the importance of the common employer bond faded and other groups and avenues to friendship and community activity flourished.

The endurance of the employee enclave as the defining characteristic of a neighborhood in Brevard is interesting. Even now social activity is

commonly organized by employer groups. I was struck by the supermarket posters which advertized Grumman Wives Bridge Club and a MacDonald picnic rather than Merritt Island, Rockledge, or Cocoa events. As in the English new towns the eventual increase in the range of suitable housing made it possible for families that wanted to, to move. Unlike the workers in most of Harlow's first factories, the technicians and engineers working for the space contractors do not have much job security, and the way NASA administered the space program, by project contract, forced many of the men to change jobs frequently. It's not clear to me, but I think the allegiance of the women is to the original group.

A summary report on NASA's Impact on Brevard County was prepared by the Institute for Social Research of the Florida State University at NASA's expense in 1965. The individual attitude study approached "community satisfaction" in delicate terms. "Considering everything," the survey asked, "would you say you are satisfied or dissatisfied with this city as a place to live?" "Do you ever think to yourself, 'This is a wonderful place to live?'" The answers were moderately enthusiastic, and indicated a positive relationship between community satisfaction and length of residence.

The Louis Harris organization profiled Brevard County for the Gannett newspaper, Today, in 1966. Its results were highly controversial. The Harris poll asked residents to compare Brevard to their hometowns in specific terms. "Is it a better place for: shopping, buying clothes, television, living?" They reported that most people felt compared to their hometowns, Brevard was worse in every aspect except as a place to raise children, and corollary to that dissatisfaction was a generally held view that "nature is the main contributor to making life pleasant. The community has provided much less."

Brevard County has a humid sub-tropical climate which means that children can play out of doors year round. The possibilities for outdoor recreation, especially water related activities - swimming, boating, fishing, are practically limitless. Half the families in the county own boats. People are out fishing in the canals and off the causeways in the rivers at almost every hour of the day and night.

Nature is everywhere and visible while the community that has "provided much less" is ambiguous and hard to find. Sometimes community refers to a political unit. At one point, there were 18 incorporated cities in the county. Now, through mergers, there are 15, but more than one-third of the residents live in unincorporated areas. There are also at least 19 special districts ranging from the school system to the Mosquito Control District. The differences in municipal services are minor, the finely graded social distinctions between municipalities appear to be more important.

Despite the recommendations of the Federal Task Force, the utilities - specifically water and sewage, remain disorganized. Oddly enough,

though laced with waterways, Brevard County has a very limited supply of potable water. The central part of the county and the space installations all get their water from Orange County wells. Throughout the county private water companies supplement regional municipal companies. Real estate developers generally included the price of installing a water system in the cost of a house, however, they did not necessarily connect the system in the subdivision to a source of supply. The cost of the connecting piping often proved an expensive afterbite. Moreover, individual cities generally opposed extending their facilities to adjacent projects, developments or unincorporated areas. In 1964, for example, the city of Eau Gallie (which was absorbed into the city of Melbourne in 1969) refused to supply sewer and water services to a low cost housing project outside its limits. Eventually the State Board of Health objected and the housing authority ran pressure mains into the city lines. Eau Gallie suffered the extension of its services by charging rates 50% higher to residents of the project. The sewerage situation is even more complicated. As late as 1964 almost half the housing units in the project were serviced by septic tanks. Six municipalities, the Cape (NASA) the Air Force and 18 private sewerage companies were serving the rest of the facilities in the county. The private utility companies - water, power, sewer, all found staffing during the boom times extremely difficult because they could never match NASA's wage scales. One consequence of the disorganization has been the speedy pollution of recreational waters.

As Brevard County's population grew it became more actively conservative, that is, conservative Democrats began to vote for Republicans. There is only one Democrat left on the County Commission. The most prominent new political figure, Beth Johnson, the Republican State Senator from Cocoa Beach is considering a run for state office. In 1968, Brevard went for Nixon by a shade over Wallace with Humphrey coming in well behind. There is very little club politics, or continuing political organization.

In searching for "community" one looks for the establishment. Which establishment? One is the traditional commercial establishment whose members can be found at lunch time meetings of economic and service organizations like the Chamber of Commerce, Rotary Club, Lions and Kiwanis. But in Brevard it is distinctly separate from the leadership-establishment of the space program in background, occupation, even location. The former tend to be natives, of the area, commercially staked to its growth and located on the mainland. The space and missile industry people have come recently, are committed to the space industry rather than the home county, and are out on the Cape all day. The Summary Report suggested the separate leadership structures and the divergence of their concerns is similar to the situation in a university town. It is also similar to company towns in which the company's head office is somewhere else.

The school system is an issue of common concern that affects nearly every family in Brevard. The P.T.A. has been a central meeting place for middle class parents of primary school children. There are now 68 schools

in the system, most of them new and elaborately equipped, many designed along "open plans" which disconcerted many of the parents and taxpayers. The schools were segregated until this past fall when a United States District Court order became effective. Rather than integrate the only black high school in the county, its modern plant was converted into a warehouse and the children were sent to Cocoa High School. The number of black administrators and professionals in the school system was reduced through integration; nevertheless, the very fact of integration has also reduced the number of white pupils in the previously black public schools. Poinsett Elementary School in Cocoa was scheduled to absorb 150 white children last fall. All but 40 of them were hastily enrolled in private schools. A half page ad in the North Brevard Buyers Guide of the Orlando Sentinell described the genesis of the Titusville Christian School in the words of its founder and President, Reverend David H. Ramsey:

"In November of 1968 I was called into one of our local junior high schools to counsel with a teenage girl. While I was there the Lord began to deal with me about starting a Christian school with Christian teachers, a Christian environment, with small classes and the personal attention needed for proper teaching.

We announced the plans to build the school at Titusville. However, we began to have many obstacles fall into the path. We determined by the grace of God and the leadership of the Holy Spirit we would build a school for the honor and glory of the Lord.

As we prayed for doors to be opened in the direction that God would have us to go, He began to move us toward Cocoa."

The new parochial school system is staffed by priests imported from Ireland.

The Central Brevard phone book has twelve listings for church sponsored child care centers and nursery schools and twenty five others including the "Kiddie Kountry Klub," "Kay's Kiddie Kollege - 6am to 6pm - , academically oriented curriculum, consulting psychologist, member Chamber of Commerce," and "Pat's Kiddie Korner" which operates twenty-four hours a day.

Among the "communities" of Brevard County some of the most visible, most active, and most intensively organized are the churches. For example, The First Baptist Church of Merritt Island, (population 33,000) has a congregation of more than 37,000. The church plant includes a snack bar, a gymnasium, a bowling alley, game room, fifteen choirs, a symphonic

band, a brass choir, 58 Sunday School departments, and adult courses in "slimnastics" and ceramics. It has three full-time ministers and draws crowds of 1,500 to its Sunday night revival meetings. (The slightly larger First Baptist Church of Titusville is considering installing a sauna.) One can say fliply of the "family churches" that the family that plays and prays together need have nothing to do with the rest of the community, but in point of fact their success means they are effectively meeting social needs. They must, as the saying goes, be doing something right.

The national and international press who swoop in to cover rocket launches have written and broadcast, in the boredom of delayed count-downs or, when charged with finding features about life among the gantries and missiles, about the part of Brevard they know best, the so-called "Platinum Coast" along the A-1-A highway around Cocoa Beach. Church going middle Americans carry grudges against the media. In an article called "Voices from the Silent Majority" (in the April issue of Harper's Magazine) former Alicia Patterson fellow, Joseph Goulden, quoted a SatelliteBeach electrical engineer "We fell out with Huntley and Brinkley several years ago when they did a special on our area. They interviewed mostly prostitutes and showed bars and cocktail lounges. They could have presented the Cape Kennedy area in a better view."

The myth of "Sin City" didn't really take off in the press until the Harris poll in 1966. Profiling the residents of the county the poll went beyond income, education and an index of material possessions (high, high and long) and touched on a whole realm of doubt and self castigation that has never been far from print since. Whether or not the people of Brevard really drink, divorce, gamble, or cuckold or cheat more than other people, it is important that they seem to think they, or their neighbors do. The Harris poll complemented a lot of the facile assumptions of the "aero space syndrome" and is the basis of most of the subsequent articles about Brevard. In honor of the lunar landing last summer Cosmopolitan ran an article on the aerospace men of Brevard which predictably emphasized their meanness, infidelity and instability. Although its stringer interviewed people up and down the county, Time magazine plagerized the Cosmo article for its view of Brevard. It would probably be more accurate to call it the "engineering syndrome," because it really refers more to the problems of engineers in every industry than to the aero space industry alone. The enormous demands of the aero space industry during the sixties produced concentrations of engineers in which the syndrome was noticed. It was most conspicuous in Brevard County because it was most concentrated there in a company town setting. One social worker describes the syndrome with the phrase "slide rules are easier to deal with than issues," meaning that engineers whose professional training is to precise, unambiguous problem solving reflect that training in their private and social lives.

In the Topsey tradition of non-anticipation the Family Services Agency of Brevard was not established until the end of 1964. Its sponsor was the Episcopal Church but it is a non-profit, non-sectarian, overworked,

understaffed agency providing the only non church family counseling in the county. Its clients come from all over the county, from every religion, but mostly from the space industries and the government installations. Staff members described typical cases involving technically educated men and their humanistic liberal arts educated wives who no longer speak the same language, in which the men are entirely involved in their work and wonder why, since they bring home such handsome pay checks their families do not straighten out and fly right, and their wives are nervous and feel abandoned with all the responsibilities for raising children.

Without doubting the engineering syndrome I tried to stand back and look for less exclusive anxieties. One of the problems of new towns is the phenomena called "new town blues" which, it turns out, is characteristic of new communities whatever they are called. It mainly strikes house-bound young women with small children after about six months in a new town when they realize that the move is complete and life has not changed much. The women often complain of missing the advice on child rearing and companionship of their mothers, and feel ignored by their husbands who have their work and outside friends to keep them busy. I had every reason to expect there to be some form of "new town blues" in Brevard. The statistics from the survey report gave indirect supporting evidence...the relationship between length of residence and community satisfaction, the stable backgrounds of the newcomers, their youth and fecundity.

The idea of a natural pattern of anxiety appearing during the process of settling startled the people I asked, but they supplied substantiating unquantified impressions. There was only one difference between the description of newcomer problems in Brevard and in the British new towns and that was the desperate fear of illness and being unable to find medical care in Brevard, partially a middle class sensitivity to health care, and a reflection of the inefficient health delivery system, partially a tribute of sorts to the British National Health.

The divorce rate in Brevard County is actually only fractionally higher than the state of Florida rate (4.7 per 1,000 v. 4.5 per 1,000). Nevertheless, according to a subsequent Harris poll, in March 1967 nearly 60% of the respondents thought it was much more of a problem there than elsewhere. A local television station always asks during the 10 PM station break "Do you know where your parents are?"

Brevard County was unprepared for the impact of the space program. It is almost as unprepared for the cutback of the space program. The current situation borders on panic. The mainland "establishment" continues to think in regional terms, rather than of the interrelated county, and thus talk of developing convention centers first in Melbourne, then in Cocoa, then in Titusville. The Brevard Economic Development Council was a late arrival on the scene and has little influence. Instead of rising, secondary employment and tourist overnight stops are both down. Increasing numbers of tourists visit the Space Center but they come and go

without stopping to spend money in Brevard County. One of the signs of flight are the abandoned houses, an especially common sight around Titusville. As you drive down the still unpaved streets of the subdivisions you can spot them by the wild grass on the lawns and then, as you draw closer, by the broken empty windows. The glut of housing as a result of cutbacks and panic has allowed those who stay to take advantage of some of the best housing buys in the United States today and move up into better homes at a very good price. As a result the new ghettos, both black and white are showing blight faster.

Would Brevard County have developed as more than a glamorous company town if NASA had established either an administrative or scientific center there? The histories of Huntsville and Oak Ridge where scientists, as opposed to engineers, displayed spirited interest in community activity, initiated political as well as cultural projects and generally set out roots suggest that it would have helped.

How could NASA have affected the development of Brevard? A lot was given and very little was asked. A multi-billion dollar investment could be used as a powerful carrot to induce change or at least encourage compliance.

Where the power of suggestion lightly administered might have been enough to initiate action in simple matters, NASA remained indifferent or deficient.

NASA's Community Relations offices are in the administration building of the Kennedy Space Center on Merritt Island. You need a pass to get in. When I first went there, before Apollo 11, you had to swear your loyalty to the government before you got the pass. It was pro forma, of course. So was the gun the Wakenhut guard who was subcontracted by TWA to guard the gates was wearing. After Apollo 11 some of the bureaucracy was cut back and they just asked where you were going, called in and scribbled a pass on a receipt form. The guard was still wearing his gun.

When I got inside I asked about the guards and guns. I was told very politely that they were essential, not for security, but for traffic control, but that on Sunday anyone can visit the center. The Community Relations office, which evolved from the Impact Committee has very little to do with the community. One incident summarized their attitude.

In the course of a long conversation with one of the community relations officers I asked whether NASA had ever done anything to help black professionals working in the program or for the contractors to find housing commensurate with their skills and salaries; after all, discrimination was both immoral and illegal and almost all the housing was brand new. His answer was that "any black engineer who came here would have to be kind of pushy anyway, don't you think?"

The Summary Report on Impact said "A slight majority of the respondents favored the view that NASA has special responsibilities in the Cape Kennedy area but there was no clear cut answer as to what such responsibilities might be."

I think it is important to look at Brevard County as a new town and consider its recent history for at least two reasons. First, the consequences of NASA's disinterest in the development of the area have been costly in social, monetary, even ecological terms. Despite the capital outlay of billions of dollars the bills are not yet tallied. Federal investment urbanized the area and created problems ranging from pollution to overconstruction to which, I suspect, only federal investment and attention can begin to straighten out. Second, the federal government, beginning in the Johnson administration and now in the Nixon administration appears to be developing utopian views of the potential for new towns in the United States. Despite the claims of Columbia, Reston, even Clear Lake City, the NASA enclave outside Houston, it seems to me that the most useful example of an American new town in the post war period is, in fact, Brevard County. Insofar as it is relatively isolated, economically and socially self contained, it is almost uniquely suitable for study.

Sincerely,

Eden Ross Lipson

TEN YEARS OF SPACE

These statistics measure other aspects of Brevard County's growth:

	1958	1968	Pct. Increase
Population of Brevard	91,900	239,000	260
School enrollment	17,983	60,346	335
Public schools	18	62	344
Classrooms	437	1,595	364
Teachers	478	2,751	575
Employed persons	42,000	100,000	234
Earnings	\$199,519,000	\$ 871,000,000 (est)	436
Hospital beds	133	728	547
Assessed valuation	\$270,655,952	\$2,654,249,197	980
Property taxes	\$ 4,123,397	\$ 24,776,749	600
Sales taxes	\$ 1,877,000	\$ 7,784,000	414
Gasoline taxes	\$ 2,512,000	\$ 5,592,000	222
Electric meters	9,285	32,739	352
Telephones	26,319	124,046	471
Housing units	23,134	67,100	290
Auto registrations	50,595	147,403	291
Bank assets	\$ 86,931,686	\$ 352,531,468	405

left: NASA issued this statistical summary in 1968 shortly before the peak of the space program employment was reached. Jobs fell almost 10% in 1969 and there will be further cuts this year.

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