The original documents are located in Box 21, folder "Mass Transit (2)" of the James M. Cannon Files at the Gerald R. Ford Presidential Library.

UMTA

THE WHITE HOUSE

WASHINGTON

November 9, 1976

Dear Mr. Scelzo:

This is in reply to your letter of August 31, 1976, addressed to Mr. Michael Raoul-Duval.

As I am sure you know, on September 20, UMTA announced that nineteen cities have successfully completed the preliminary evaluation process for the Downtown People Mover project and are now undergoing detailed evaluation. I am sorry that the proposal for the city of Fort Lauderdale was not among the successful candidates.

Your interest in improving urban mass transportation is deeply appreciated. I regret that I cannot bring you better news.

Sincerely,

James M. Cannon
Assistant to the President
for Domestic Affairs

Mr. George Scelzo
President
PRT Systems Corporation
1020 Chicago Road
Chicago Heights, Illinois 60411

THE WHITE HOUSE

WASHINGTON

October 19, 1976

Judy —
Example
letter pls

Dear Mr. Scelzo:

This is in reply to your letter of August 31, 1976, addressed to Mr. Michael Raoul-Duval, which requested that he consider supporting the candidacy of the City of Fort Lauderdale in the Downtown People Mover (DMT) project sponsored by the Department of Transportation (DOT) Urban Mass Transportation Administration (UMTA).

Department of Transportation

I have been informed by the DOT that UMTA has recently completed its preliminary evaluation of the 38 proposals that were received from cities throughout the country for the DPM project. In this preliminary evaluation, each proposal was reviewed for its compliance or non-compliance with Administrator Patricelli's April 5 announced DPM criteria. The announcement requested the potential applicants to submit proposals demonstrating that adequate planning for the project had been performed, that the cost is commensurate with the expected benefits, and that the proposal provides sufficient data to permit evaluation of the merits of the project.

Why all this too Fort Lauderdale?

As I am sure you know, on September 20, UMTA announced that nineteen cities have successfully completed the preliminary evaluation process and are now undergoing detailed evaluation. I am sorry that the proposal for the City of Fort Lauderdale was not among the successful candidates.

Your interest in improving urban mass transportation is deeply appreciated. I regret that I cannot bring you better news.

Sincerely,

James M. Cannon
Assistant to the President
for Domestic Affairs

Mr. George Scelzo
President
PRT Systems Corporation
1020 Chicago Road
Chicago Heights, Illinois 60411

OFFICE OF THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

OCT 18 1976

MEMORANDUM FOR: Ms. Judith Richards Hope
Associate Director, Domestic Council
The White House

SUBJECT: White House referral from Judith Richards Hope to A. B. Virkler Legate enclosing Correspondence from Mr. George P. Scelzo regarding Downtown People Mover Project

As indicated in your request of September 16, 1976, I am enclosing a draft of a letter from Mr. James Cannon to Mr. George Scelzo, President of PRT Systems Corporation.

The draft letter is in response to Mr. Scelzo's August 31, 1976 letter to Mr. Michael Raoul-Duval requesting support for the candidacy of the City of Fort Lauderdale in UMTA's Downtown People Mover (DPM) project. Unfortunately, the Ft. Lauderdale proposal was not in compliance with Administrator Patricelli's April 5th announced criteria for the project and therefore was not successful in completing the preliminary evaluation process.

A. B. Virkler Legate
Executive Secretary

Enclosures

ok for final draft, cannon signature, as indicated then Central files

DEPARTMENT OF TRANSPORTATION

Suggested Reply

Mr. George Scelzo
President
PRT Systems Corporation
1020 Chicago Road
Chicago Heights, Illinois 60411

Dear Mr. Scelzo:

This is in reply to your letter of August 31, 1976, addressed to ~~my predecessor~~ Mr. Michael Raoul-Duval, which requested that he consider supporting the candidacy of the City of Fort Lauderdale in the Downtown People Mover (DPM) project sponsored by the Department of Transportation (DOT) Urban Mass Transportation Administration (UMTA).

I have been informed by the DOT that UMTA has recently completed its preliminary evaluation of the 38 proposals that were received from cities throughout the country for the DPM project. In this preliminary evaluation, each proposal was reviewed for its compliance or non-compliance with Administrator Patricelli's April 5 announced DPM criteria. The announcement requested the potential applicants to submit proposals demonstrating that adequate planning for the project had been performed, that the cost is commensurate with the expected benefits, and that the proposal provides sufficient data to permit evaluation of the merits of the project.

As I am sure you know,
On September 20, UMTA announced that nineteen cities have successfully completed the preliminary evaluation process and are now undergoing detailed evaluation. I am sorry ~~to inform you~~ that the proposal for the City of

Fort Lauderdale was not among the successful candidates.

Your interest in improving urban mass transportation is ~~sincerely~~ deeply appreciated.

I regret that I can not bring you better news.

Sincerely,

THE WHITE HOUSE OFFICE

REFERRAL

PRIORITY

To: Hon. A. B. Virkler Legate
Executive Secretary
Department of Transportation

Date: September 16, 1976

ACTION
IS assigned to
UMTA
CONTROL NO.
491296
SIRS S-10

ACTION REQUESTED

__X__ **Draft reply for:** James Cannon's signature

_____ **President's signature.**

_____ **Undersigned's signature.**

_____ **Memorandum for use as enclosure to reply.**

_____ **Direct reply.**

_____ **Furnish information copy.**

_____ **Suitable acknowledgment or other appropriate handling.**

_____ **Furnish copy of reply, if any.**

_____ **For your information.**

_____ **For comment.**

NOTE

Prompt action is essential.

If more than 72 hours' delay is encountered, please telephone the undersigned immediately, Code 1450.

Basic correspondence should be returned when draft reply, memorandum, or comment is requested.

REMARKS:

GERALD R. FORD LIBRARY

'76 SEP 17 PM 4:11

OFFICE OF SECRETARY
OF TRANSPORTATION
EXECUTIVE SECRETARIAT

Description:

__X__ **Letter:** _____ **Telegram: Other:**

To: Mr. Michael Raoul-Duval, Assoc. Dir., Domestic Council
From: George P. Scelzo, President, PRT Systems Corp.
Date: August 31, 1976
Subject: Downtown People Mover for Broward County--Fort Lauderdale, Fla.

By direction of the President:

Judith Richards Hope
Associate Director
Domestic Council

(Copy to remain with correspondence)

PRT Systems Corporation

Extending Man's Control Over His Environment

P.O. BOX 156 / 1020 CHICAGO ROAD / CHICAGO HEIGHTS, ILLINOIS 60411 / 312 – 756-7090

GEORGE P. SCELZO
PRESIDENT

August 31, 1976

James Cannon has replaced Raoul-Duval

Mr. Michael Raoul-Duval
Associate Director
Domestic Council
The White House
Washington, D.C. 20500

Dear Mike:

I know you are busy and working long hours to get the President elected in November, so I will keep this letter short. I would like to suggest that you consider the Downtown People Mover (DPM) Project, which is intended to provide a NATIONAL DEMONSTRATION of the benefits of fully automated, simple, shuttle and loop transit (SLT) type systems. The project will provide operating data, planning tooling and experience that other cities can emulate in solving their transportation needs for downtown transportation systems.

Broward County and Fort Lauderdale, Florida for over two years have filed various type applications with UMTA to implement a (DPM) in the new, revitalized downtown area. Attached is the Fort Lauderdale proposal submitted in June 1976, which covers the entire project, including the lowest cost budget (8.5 Million Dollars) of any of the thrity-eight proposals received by UMTA. We and the public officials of Broward County are sure the program will be one of the three selected cities. The announcement is to be made November 18, after the election. We think that a program of this magnitude, both political and economic and a major domestic issue should be part of the election campaign strategy. Florida is a key state that the President must win. Broward County and Fort Lauderdale is a heavy republican area. Congressman Herb Burke and Commissioners Jack Moss, Bill Stevens and Bob Barkelew are all running for re-election. A revitalized Broward County and Fort Lauderdale means jobs and economic stability. The Downtown People Mover is a key to this program. These public officials are pushing hard for this project. It certainly would be a big boost to the area if the President on a campaign swing through Broward

County would announce this program.

If the above information makes sense and we think it does, we would like to meet with you to discuss in more detail the impact of this project.

Look forward to your reply.

Very truly yours,

GPS/ck

Enclosure

cc Commissioner Jack Moss

Chicago Department of Public Works
121 North LaSalle Street, Room 406
Chicago, Illinois 60602

McLean
Egemen
Lustig
Petzold
Burger
MB/me

TO: File

August 10, 1976

FROM: Marsden H. Burger

SUBJECT: Inspection of Automated Transit Facilities

On two occasions this year while on private trips I have had the opportunity to visit three of the major automated transit installations in the United States; UMTA's demonstration at Morgantown West Virginia, Air Trans at Dallas - Ft. Worth Airport, and PRT System's Astroglide/Braniff International's Jetrail at Love Field in Dallas.

The basic findings of the visits were that all of the systems appeared to be capable of providing a high level of service. With the exception of Morgantown, all the systems were observed to function at the level to which they were designed.

One of the most interesting observations was the difference in the cost and complexity of the three operations. Morgantown - 15 million per mile of one-way operations, Air Trans - 5 million per mile of one-way operation, and Jetrail - 1 million per mile of one-way operation.[1] The complexity of the three operations varied directly with the costs, but basic service levels remained constant.

Air Trans:

The Air Trans installation at the Dallas - Ft. Worth Airport is unquestionably the most ambitious and elaborate automated transit system in the world in revenue service.

It consists of:

13.7 miles of one-way guideway,
55 Stations (14 passenger, 14 employee, 27 baggage and other)
68 Vehicles (51 passenger vehicles 40 passengers each,
17 utility),
74 Switches.

The system operates with a number of overlapping routes and utilizes a block signal system of control that is monitored by a computer.

Morgantown:

The Morgantown automated transit demonstration project is one of the most famous in the country. While not as large as the Air Trans installation, its high cost has brought it considerable notoriety.

---

1. This specific system is now for sale by Braniff and they are asking 1.5 million as is for approximately 1.5 miles of guideway. PRT systems is also marketing the maglev version of this system for 3 million/mile.

It consists of:

4.4 miles of one-way guideway,
45 vehicles (all passenger - 8 seated, 13 standing),
3 stations (1 off line, 2 end of line loop stations).

The system operates in a scheduled (or route) mode and a demand mode. The scheduled mode is similar to the Air Trans system whereas the demand mode allows the passenger to select his destination. With only three stations at this time, the demand mode has little practical value other than for testing purposes.

Braniff - Jetrail/PRT systems-Astroglide: (Braniff/PRT)

This system is not as well known as the two others, but has importance in the Chicago area as it is the proto type for the "Mono Rail" as proposed by citizens in the southwest suburban areas.

It consists of:

1.6 miles of one-way guideway,
10 vehicles (14 passenger, 6 seated, 8 standing)
3 stations (2 end-of-line with off-line capabilities and 1 on line).

The vehicles on the original Braniff - Jetrail are suspended below a single rail. The "rail" is in the form of an I-beam, and the vehicle is propelled by drive and support wheels riding on the I-beam flanges. The system is no longer used for passengers as the airline closed its operation at Love Field. It is now being used by PRT Systems to test its Astroglide, a magnetic levitated linear motor powered version of the system. In this form, the linear motor reacts with the bottom of the I-beam providing both propulsion and most of the support of the vehicle.

Vehicle Characteristics:

The Air Trans vehicle has a maximum capacity of 40 passengers (16 seats, 24 standing) and can be trained into two car units. The Morgantown and Braniff/PRT systems are both designed for single car operation. Morgantown vehicles hold 21 passengers (8 seated, 13 standing) and the Braniff/PRT system holds 14, (6 seated and 8 standing).

All the vehicles loaded with no difference in elevation between the platform and vehicle floor. No problems were experienced with the vehicle docking on the Morgantown or Airtrans system. Some difficulty was experienced on the Braniff/PRT system. At one of the stops the vehicle stopped short of the exit door by about a foot. The system has been out of service and this appeared to be a problem that would be taken care of by preparing the system for operation.

The noise level within the vehicle was low on all the systems. The maglev vehicle which has been temporarily converted as a demonstration vehicle had a hum that came from the temporarily installed electronic control in the vehicle. This hum will probably be eliminated when the electronics are permanently attached to the outside of the vehicle and cushioned against vibration. At the time when the maglev motors were reduced in power, the vehicle was completely silent. This would happen when the vehicle would be slowing down and the let-up of power would stop the hum and vibration. When the electronics are properly installed, it would be expected that the entire ride would be close to the silent portions on the observed trip.

The noise produced by the Morgantown and Air Trans vehicles compares with a standard passenger car. The Morgantown vehicle was the louder of the two.

The Air Trans vehicle had a maximum speed of 17 miles per hour whereas the Morgantown vehicle hit speeds of 30 mph and the Braniff/PRT maglev vehicle hit speeds of 25-30 mph. The difference in speed and the size of the vehicles accounted for most of the differences in ride quality between the vehicles. Air Trans was the most comfortable of the three. With twice the wheel base and half the speed, this is to be expected. Between the Morgantown vehicle and the Braniff/PRT, the ride was quite similar. Slight jostling was experienced on both vehicles in turns.

The Braniff/PRT vehicle gave a stabler ride on the straight sections of the guideway than the Morgantown vehicle, but both were very good. The effects that the wind might play on the ride in both of these smaller vehicles was not experienced as the weather conditions at both locations were good.

The Braniff/PRT vehicle has an estimated top speed of 60 mph. This speed is not used at Dallas because such speeds were not needed in the original design of the guideway.

The loading platforms for the Braniff/PRT and Air Trans systems were similar to that of an elevator. They had an enclosed waiting area with a double door system that only opened when a vehicle was at the platform. The Morgantown system was much the same as the CTA's with the platform open.

Guideway Structure:

The three guideways differed greatly. The Morgantown and Air Trans systems supported the vehicles above the guideway, like an elevated roadway, whereas the Braniff/PRT system was suspended below a single I-beam structure. The Morgantown structure was massive as is shown in figure 1 as it passes over a city street. The structure is far larger

than what is needed. It had been started without knowing the size of the

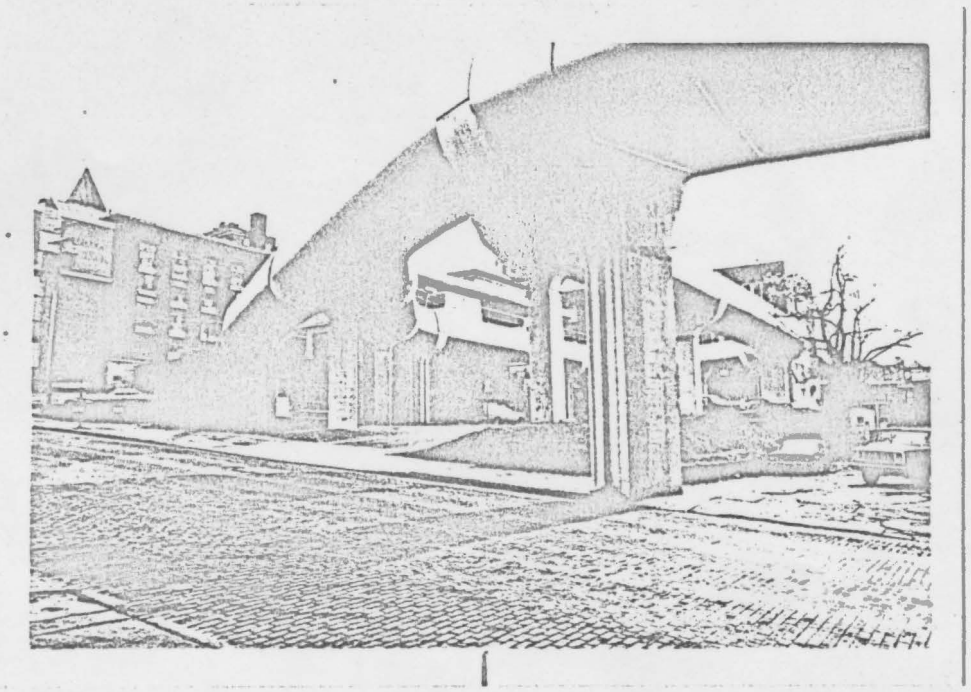


Figure 1. Morgantown's Walnut Street Station

vehicle to be utilized and seems designed for the safety requirements for the largest vehicles being considered. The Air Trans guideways are far lighter, figure 2. While they were cheaper to construct, Air Trans has

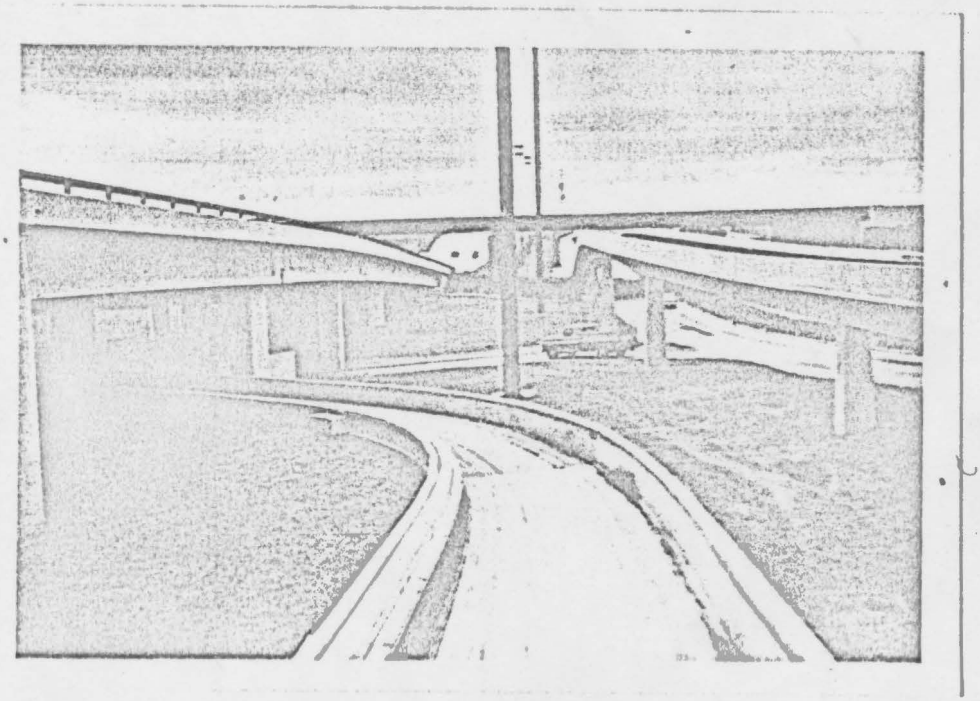


Figure 2. Air Trans's Guideway on Right and Center, Compared to Highway Bridge on Left.

experienced difficulties with shifts and settling and feel they would experience considerable trouble if they were in a more northern climate. Also special consideration had to be given to vehicle slipping at both Air Trans and Morgantown operations. At Air Trans, wear spots developed at points where the vehicles applied power, requiring the installation of traction strips for better control.

Morgantown had to install track heaters to handle the problem of ice and snow.

The guideway structure of the Braniff/PRT system is a suspended I-beam (see figure 3). This is a system that doesn't experience problems of ice, snow,

Figure 3. Braniff/PRT at Right of Highway

or wear because the power is not transmitted through traction wheels. The maglev suspension and power react to the I-beam giving the vehicle positive control in inclement weather. As the vehicle is suspended under the guideway from a small fulcrum, there is some problem with wind loading, but this wasn't experienced.

All of these systems should receive consideration in future transit planning in the City of Chicago. While none of these systems have the capabilities necessary for application as a major commuter transit leg, they may have good application as: feeders for major transit lines, connecting links to the major tourist attractions along the lakefront and the loop within the south area, or a possible link between a revitalized Midway and O'Hare.

While these are three of the existing systems, there are a number of other new systems in advanced stages of development that could also be considered in any future alternative planning. These systems offer tremendous possibilities of cost savings especially in the area of long term operating costs. While these systems are not an answer to all transportation problems as many of the proponents for automated transit have claimed, with good planning and engineering analysis by the City these systems may be able to ease specific transportation problems in the near future.

Marsden H. Burger

Marsden H. Burger

PRT SYSTEMS CORPORATION/FRANKLIN INSTITUTE RESEARCH LABORATORIES/LINEAR MOTORS, LTD.

TRANSIT NOW FOR TOMORROW

ASTROGLIDE

INNOVATIVE MONORAIL AUTOMATIC MAGLEV TRANSIT SYSTEMS

Your Magic Carpet OVER The City

Expanding Transit Technology

PRT Systems Corporation has committed entire resources and pioneering transportation experience to expand transit technology with innovative monorail and ground-level systems. We have combined talents with the Franklin Institute Research Laboratories and Linear Motors Ltd., to develop the most technologically advanced computerized and pollution-free system incorporating scientific advancements especially formulated for "ASTROGLIDE" -- magnetic levitation and linear motor propulsion.

Air, noise and aesthetic pollution from all current modes of urban transportation are far too high, degrading unnecessarily the quality of the urban environment. Helping to alleviate depletion of our nation's energy resources was another consideration in developing ASTROGLIDE. Contemporary transportation is also characterized by deficiencies in the areas of traffic congestion, quality of service and the efficient use of land. In solving these problems PTR Systems Corporation uses the expertise of the Franklin Institute, the United States' oldest and foremost source of innovation in scientific research and engineering.

ASTROGLIDE represents the first major urban transportation alternative to be presented to cities within the last 50 years. People move through our city streets at a pace slower than they did in horse and buggy days. It costs more to collect fares than it does to run trains and buses. The lack of adequate transportation locks people into ghettos with filth which robs them of human dignity. More than 70% of Americans now live in urban areas. We believe that transportation should serve people and not constrain them.

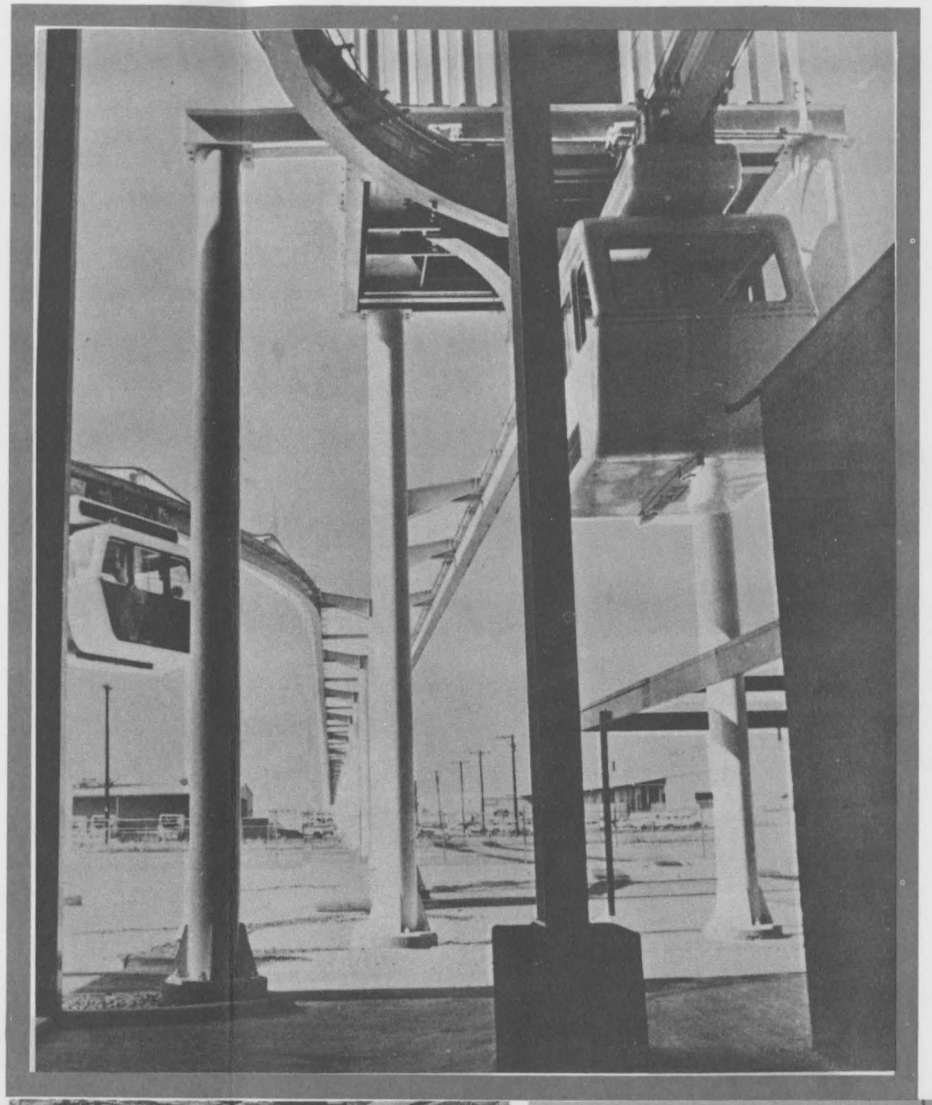
In this day of men on the moon, there has to be a better way to transport people on earth. ASTROGLIDE is that better way. We have combined aerospace and computer technology with advanced manufacturing methods to insure the highest standards of quality for this short-run, high-density and inexpensive mode of transportation. ASTROGLIDE provides dramatically reduced maintenance requirements, ease of installation, flexibility to accomodate the conditions, ease of expansion, and smooth and quiet pollution-free operation.

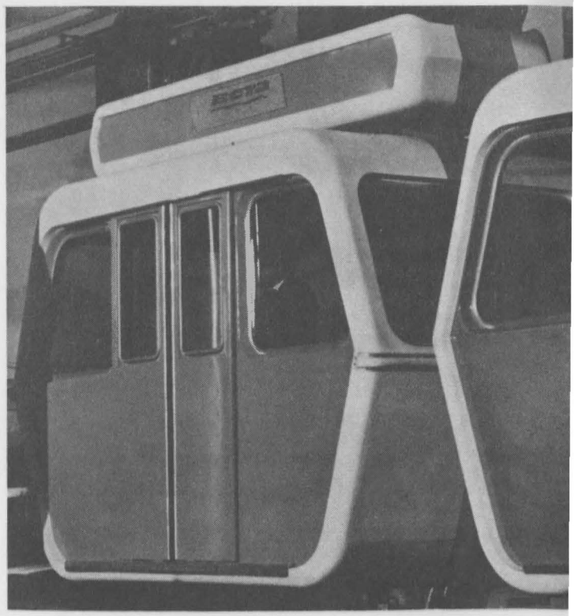
The unique propulsion systems powered by linear induction motor (LIM) is another innovation of ASTROGLIDE. Use of the LIM places all power into the overhead guideway for swift, silent, frictionless transportation. This motor reacts directly against the steel I-beam secondary which is also the major structural support. The LIM provides enough attractive force to virtually support the vehicle; thus this is a simplified form of maglev in which the wheels provide the stabilizing force but most of the vehicle weight is supported magnetically. There are NO moving parts in the system. Linear Induction propulsion, devised and perfected by Linear Motors, Ltd. of England our European affiliate, is a revolutionary advancement over the conventional rotary induction motor drive system.

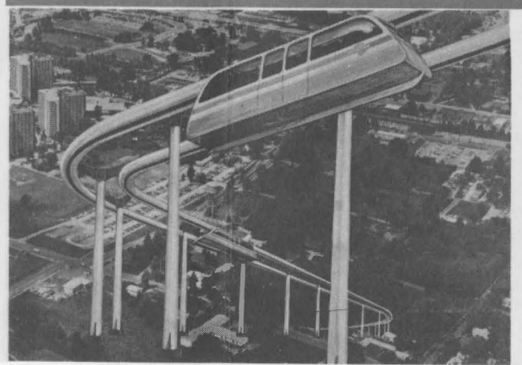
The adjacent illustration visualizes the two parts of a LIM as the stator and rotor. Instead of a rotating effect, or torque, being produced by the two elements, a thrust is developed. Since the flat-end stator windings are mounted on top of the vehicle and the rotor is the steel I-beam guideway, the thrust developed is continuous and the vehicle speed can be varied. By controlling the LIM to produce thrust in the opposite direction braking is obtained. Because the propulsion drive and main braking forces are not applied through wheels or gears the noise that accompanies all conventional forms of transportation is eliminated.

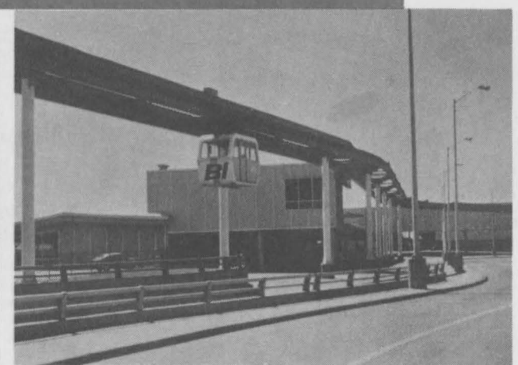
To connect suburbs with cities, in busy downtown shopping centers, between airline terminals or to parking lots, or connecting university buildings, wherever busy people need to move within major activity centers, ASTROGLIDE (AGT) systems will move them quickly, safely and silently. Without interference from automobile, pedestrian traffic or any city-bound traveler, the air passenger, shopper or student, along with baggage and books, rides comfortably in automatically-controlled vehicles to his preselected destination.

We are convinced, and would like to convince you, that ASTROGLIDE is the only type of public transportation attractive enough to persuade city-bound motorists to leave their cars at home. We know it will release metropolitan areas from the twin strangleholds of pollution and congestion. And this transit system of tomorrow is ready NOW.









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PRT SYSTEMS CORPORATION
1020 CHICAGO ROAD
P.O. Box 156
CHICAGO HEIGHTS, ILLINOIS 60411
Tel. (312) 756-7090

ASTROGLIDE™

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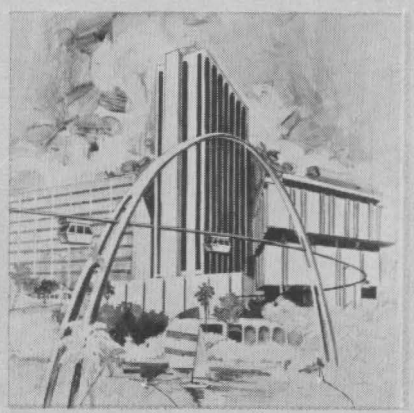
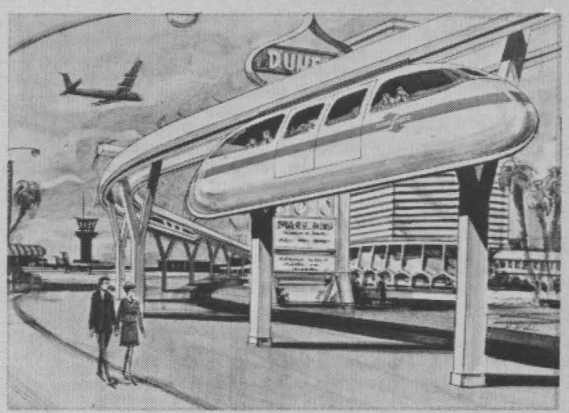
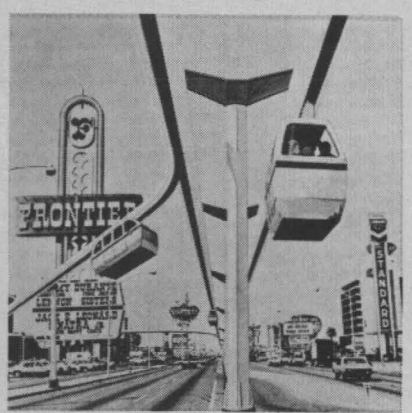
- **LINEAR MOTORS, LTD.**







Astroglide – the Advanced Automatic Guideway Transit System

GEORGE P. SCELZO
PRT Systems Corporation

SYNOPSIS

This paper describes the successful application of linear induction motor (LIM) propulsion for an operational (AGT) monorail transit system and advanced transverse flux motors (TFM) in a people-moving overhead monorail system.

The monorail system was installed at Dallas, Texas, by Braniff International to move airline passengers from their parking area to their terminal building. The monorail is in the form of a continuous two-way loop approximately 1.5 miles long with three stations and six automatic switches. There are 10 ten-passenger cars originally propelled with a system of rotary induction motors coupled through eddy-current clutches to differential gear boxes driving traction wheels on the lower flanges of the I-beam overhead rail.

To eliminate traction problems, improve reliability and reduce maintenance costs, the propulsion system has been up-graded to linear induction motors with all solid-state speed controls. The first car to be up-graded was fitted with two 440 volt three-phase linear motors of conventional design each rated for 350 lb thrust and a top speed of 40 mph. Speed was controlled in a closed-loop system using variable-voltage thyristor units to vary the thrust of the motors. This car was capable of handling more than 2300 lb of additional payload because of the elimination of so much mechanical hardware. This motor reacts directly against the steel I-beam secondary which is also the major structural support. The LIM provides enough attractive force to virtually support the vehicle; this is a simplified form of maglev in which the wheels provide the stabilising force but most of the vehicle weight is supported magnetically. There are no moving parts in the system.

A second car was fitted with advanced state-of-the-art transverse flux motors, capable of speeds of more than 50 mph on power line frequency. The performance of this car is compared with the performance of the first LIM propelled car and the original traction-wheel propelled car. The results confirm the benefits of LIM propulsion.

Our culture has become very dependent on transportation. Almost everything we are accustomed to in daily living is produced at some distance from where we live and is made accessible through some means of transportation. Approximately one quarter of our fuel energy is currently expended in providing this daily circulation on which we are relying for our food, clothing and other requirements and to bring us to our places of employment, health, educational and recreative facilities. Transportation, in fulfilling the requirements of these functions, has become the largest single user of human, land and energy resources.

As our greatest single expenditure, the reduction of energy used by transportation is necessary for the maintenance of our society.

But can we really afford it? How long can we continue to pay the price of urban blight, excessive gasoline consumption and a depressed construction industry?

In this day of man on the moon, we must find better ways to transport people on earth.

People move through our city streets at a pace slower than they did in horse and buggy days. It costs more to collect fares than it does to run trains and buses. The lack of transportation locks people into ghettos with noise and the filth which robs them of human dignity.

In the effort to improve urban environment, urban mobility is a vital consideration. Urban transportation is, and must be, integral to the whole national effort to improve our cities and is, in fact, inseparable from it. Transit not only serves the city, but shapes it. People live in cities where they can get to and from home and work. Urban transportation should serve people and not constrain them. However, contemporary transportation is characterised by deficiencies in the areas of urban pollution, congestion, quality of service and the efficient use of land. Air, noise and aesthetic pollution typical to all current modes of urban transportation contribute to degradation of quality of urban environment.

Office of Emergency Preparedness has recently issued a report citing the dangers of destroying our nation's energy. The report states: "The nation's limited fuel resources are being dangerously depleted, and the United States is becoming increasingly dependent upon foreign oil and gas supplies". Pointing to the energy diet of the United States, the Office said that by 1980 energy consumption should increase by 39% and double by 1990 what it was in 1971. The report states that the nation's energy gobbling can be cut 25% in 20 years if Americans are willing to adopt motor fuel rationing and utilise advanced technology in mass transportation.

With the increased use of the automobile as the primary mode of travel, mass transit facilities have declined. Dependency on the automobile has greatly contributed to the blighting effects of congestion, dislocation of people and business, and air pollution in the cities. In addition, lack of adequate, efficient and economical public transit limits the mobility of non-drivers. It is estimated that nearly one-third of the urban population suffers serious disadvantages from being served inadequately or not at all by mass transit systems. Yet these are the people who need public transit service the most.

These facts present tremendous opportunities for companies engaged in urban transportation. The Astroglide system is a demand-responsive transportation system.

Demand because the cars are small compared to trains or buses, and because the service offered is on direct demand from the passenger. The car waits for the man; not he for the car. **Rapid** because the cars operate on elevated guideways, free from other traffic so that even at speeds of 30 mph or less, trip time is considerably less than today's frustrating journeys in congested areas via car or bus. Astroglide is fully automatic and computerised, making the use of small cars operating at frequent intervals all day long economically feasible. The net result is vastly improved service at operating costs which are lower than any conventional form of mass transit.

It is designed to move people, baggage, cargo, mail, freight, materials and supplies on a horizontal line efficiently and automatically. Astroglide solves the problem of moving people and things from here to there.

The new Astroglide system (Fig 1) is far superior to the monorail installation Braniff International has in use at Dallas, Love Field. Completely automated, it requires no driver. It is precisely pre-programmed to move from one location to another, whether it is 1000 ft or 20 miles, by pushing a button.

The Astroglide Fiberglass shell construction is light-weight and durable. It can be operated with single cars or in multiples. For example, an airport installation could have passenger, baggage and cargo units incorporated into the same system.

Astroglide is safe and reliable and provides the long-needed missing link in transportation by combining an economical balance of service and cost. The basic Astroglide design has built-in back-up systems with the ultimate in reliability and redundancy to give safe, sure operation.

Astroglide flexibility provides the freedom to meet existing conditions rather than change the conditions to fit the system. The architect, designer or planner can design the vehicle shape and configuration to suit each specific need.

Astroglide can go up grades, down grades, above ground or under ground. It can travel suspended from rails or on smooth floors. It can turn around sharp corners; as small as a 15 ft radius or in the smooth arc of a 1500 ft radius. It can be built over, around and through buildings. And as natural growth requires, Astroglide systems can be extended or modified without serious interruption to services.

Early in 1970, Braniff International inaugurated a new transit service at Love Field, Dallas, Texas. The system was (Fig 2) tailored to the needs of Braniff International, and is the only one of its type. It connected their portion of the air terminal and a parking lot located some 4 200 ft away from the terminal. The objective was to exploit parking space far beyond tolerable walking distance and also to make access to Braniff more attractive than other airlines. It was reported that over 47% of their passengers used the system.

The system employs a single closed loop. Switches and sidings are incorporated at both ends of the loop for empty vehicle storage and at one end for maintenance and cleaning. One terminal of the route is at a building in the parking lot and the other is in the terminal near the aircraft loading gates. A single intermediate station is located on the line to the parking lot at a point near the former baggage retrieval area. The guideway is an overhead monorail about 8 400 ft in length located some 20 ft above grade in double guideway configuration with loops at each end.

Vehicles normally carry up to ten passengers with six seated and four standing, and up to fourteen with crowding. Minimum headways are 10/20 seconds and maximum capacity is 2 000 passengers per hour per direction. The system has ten vehicles; each car has a total weight of 6 000 lb.

Maximum speed is about 15-17 mph with an average near 13 mph. Waiting was usually brief and total travel time was about 4-5 minutes. The overall speed surpasses that of the automobile and bus in traffic.

Annual operating costs were $240,000 per year including about $10,000 for power. Operating costs were 45 cents per vehicle mile, 2.5 per passenger mile. Astroglide LIM operating costs are 30 cents per vehicle mile and 2.5 cents per passenger mile. Patronage was at least 2.5 million riders in the last year of service and at least 10,000,000 in the entire period of service.

Braniff International was very pleased with the reliability of the system during the five-year service period. Five employees were required to maintain the system. Two employees were always available for emergencies but they performed other duties unless called.

The successful operation of our country's first commercial monorail system has been highly publicised during the past five years. The safety record of the system is excellent. One incident occured under manual control and caused only minor damage to an empty car. There were no accidents involving passengers.

The entire fleet accumulated about 500,000 vehicle miles per year and individual vehicles travelled about 50,000 miles per year.

However, even though this system for Braniff International Airways in Dallas chartered a new course for transportation, its potential for cities was not immediately recognised by municipal governments until recently. Great technological changes have been made in the system. Astroglide now provides dramatically reduced maintenance requirements, ease of installation, flexibility to accommodate the conditions, ease of expansion and smooth and quite pollution-free operation.

When the system was converted to linear propulsion we removed and discarded two rotary induction traction motors, two eddy-current variable speed drive units, two rear axle diferentials and four gear box assemblies for a total weight (Fig 3) reduction of 2300 lb, thus making provision for five more passengers in the present 12 ft car and provide a stretched version of the car to 17 ft in length carrying 25 passengers. The LIM has also dramatically increased the speed of the car from 17 mph to over 40 mph. Braking of the car is accomplished by reversing the LIM's thurst. Lubrication is no longer required.

The propulsion system powered by linear induction motor (LIM) is another innovation of Astroglide. Use of the LIM (Fig 4) places all power into the overhead guideway for swift, silent, frictionless transportation. The motor

reacts directly against the steel I-beam secondary which is also the major structural support. The LIM provides enough attractive force to virtually support the vehicle; it is a simplified form of maglev in which the wheels provide the stabilising force but most of the vehicle weight is supported magnetically. There are no moving parts in the system.

The advancement is apparent if you visualise the two parts of a LIM as the stator and rotor of a conventional motor split open and laid flat. Instead of a rotating effect, or torque, being produced by the two elements, a thrust is developed. Since the flat-end stator windings are mounted on top of the vehicle and the rotor is the 10 in wide flange (Fig 5) of the enclosed guideway structure, the thrust developed is continuous and the vehicle moves; the thrust and vehicle speed can be varied. By controlling the LIM to produce thrust in the opposite direction a braking effect is obtained. Because the propulsion drive and main braking forces are not applied through wheels or gears, the noise that accompanies all conventional forms of transportation is eliminated.

To connect suburbs with cities, in busy downtown shopping centres, between airline terminals, or to parking lots, or connecting university buildings, wherever busy people need to move within major activity centres, Astroglide AGT systems will move them quickly, safely and silently. Without interference from automobile or pedestrian traffic, the city-bound traveller, the air passenger, shopper or student, along with baggage and books, rides comfortably in automatically-controlled vehicles to his preselected destination.

General characteristics of the Astroglide system

The use of small cars (holding 10 to 25 passengers) makes the operation of the system (Fig 6) very flexible. In addition, the individual units are less expensive than larger ones would be, are more easily maintained and require less support.

The number of vehicles in a given system can be pre-programmed to meet the existing demand and added to as requirements increase. Waiting time is minimised if there is an adequate number of cars standing by. When a boarding station has a vacancy, a car is automatically dispatched to that point whether or not there is a passenger demand at the moment.

If a car must be removed from the system for cleaning, checking, routine maintenance or repair, the system continues to function with a minimum of delay. Should a car stall for any reason, exterior warning lights automatically come on to signal the monitor, and the next car on the line is moved up to push the stalled car to the station. The cars may be driven manually, if necessary, and all rails have stand-by power. The car doors have a rubber-guarded safety edge and will automatically retract if contacted by a foreign object. The doors are locked shut when the vehicle is in motion and an escape panel is provided in the event of danger.

Each car is suspended on bogies which are magnetically levitated. The car is driven by linear induction motors sized to meet the propulsion requirements and levitation of the car and provide redundancy in the drive system. Each car is equipped with both torsion and automatically operated manual brakes to assure safe stopping, and these are applied instantly should an unsafe condition occur making car collision impossible. (Fig 7.)

Operation of the system

The system, for the purpose of illustration (Fig 8), could have ten passenger cabs and two baggage cars with three stations having two major and one secondary stops.

The cycle includes two levels of loading capacity, designated "low" and "high" level. At the start of the cycle, six units are located at Station B, the terminal loading lobby and four units at Station A, which is the parking lot or remote building.

Low level loading

As an example of low level loading, a passenger arrives at the parking lot (Station A), checks his car and bags, takes an escalator to the second level, enters the waiting car and pushes a button. The system will initiate a count of 20 seconds, during which time a sign may count down numbers from 20 to 0 to advise when the cab is ready to go, or a voice command may be used to inform passengers of the cab's readiness to travel. Following the count, the door closes and the cab departs, carrying the passenger toward Station B, the terminal loading lobby.

High level loading

When there is a large group of returning passengers, perhaps 100 to 350 ready to travel from the arrival lobby (Station B) to the parking lot building (Station A), the high level cycle will be initiated, which is accomplished manually by means of a dispatching selector switch. This cycle begins with three cab doors open and ready to accept passengers.

The most forward cab will move first, approximately 20 seconds after the cycle is initiated. The second cab will close its doors and depart approximately 10 seconds later, and the third cab will follow in approximately another 10 seconds. The three remaining cabs on the storage spur at Station B will then move to the forward position and open their doors to accept approximately 60 more passengers. The first cab in this group will begin travelling toward Station A about one minute later with the remaining two following at 10 second intervals.

Simultaneously, three cabs will depart from Station A to Station B to initate a third three-cab flow to Station A in the same sequence as described. The total time elapsing between the departure of the first cab and the time the third set of cabs begins to load passengers is approximately 3½ minutes. Thus, approximately 180 passengers are transported in a continuous cycle of three units operating in three individual loading cycles.

Baggage handling

After the passenger checks his bag, it is placed in a baggage car pod along with others and the baggage car is automatically dispatched over the same rail system to the baggage loading area adjacent to the aircraft by an automatic switching arrangement.

The total concept is that the passenger, the bag, and the car are separated at one location and following the return flight, are brought back together again at the same location with a minimum of walking for the passenger, together with

complete climate control for his comfort.

Control system

The control system consists of three sub-systems . . . vehicle dispatching, the safety sub-system, and propulsion control.

Vehicle dispatching sub-system

The dispatching sub-system determines when loaded vehicles should begin movement toward selected destinations and when empty vehicles should begin movement to maintain readiness for subsequent transportation requirements. The dispatching sub-system also controls the operation of station and vehicle doors.

Dispatching functions according to either a "high flow" or "low flow" transportation pattern, which is controlled manually by means of a two-position selector switch located in a convenient position external to the vehicles. (The Astroglide dispatching system is a proprietary concept and method belonging to PRT Systems Corporation.)

Safety sub-system

The safety sub-system will prevent any event in the operation of system that might be unsafe to passengers or property. All other sub-systems are designed and connected so that they may be over-ridden by the safety sub-system.

The safety sub-system interfaces with both the dispatching and propulsion control sub-systems. The interface, however, is so designed that the safety sub-system will maintain its surveillance regardless of events that might occur in the other two sub-systems, including failures and malfunctions. Failure of any element or combination of elements will cause all portions of the system to assume a safe operating status.

Routes are divided into portions having different authorised speeds by means of a "safety block" system comparable to that used in the monorail system at Love Field, Dallas, Texas, Braniff International. The safety sub-system will keep moving vehicles separated by at least 1½ times stopping distance by means of the safety blocks. The safety sub-system enforces safety in three ways . . . by speed control, door control and fail-safe braking.

Speed control

Speed control is accomplished by combined functioning of the safety sub-system and the propulsion control sub-system. The latter will provide for voltage to be applied to produce torque for moving at assigned speed.

The safety sub-system transmits to the vehicle in any route segment intelligence which the propulsion control system will recognise and implement. As the propulsion control section explains, the sub-system will not allow any forward tractive effort unless and until it receives speed control intelligence. The safety sub-system will interrupt and open-circuit the supply of propulsion power if all conditions of safety are not satisfied. Thus, propulsion power is transferred to vehicles only by means of the safety sub-system throughout all portions of the route and for all speeds from zero to maximum. The safety sub-system prevents reverse direction drive of vehicles.

Door control

The safety sub-system monitors closure of vehicle doors and causes vehicle brakes to remain set if doors are not firmly closed.

The safety sub-system also provides devices that sense docking accuracy of vehicles at loading and unloading locations and prevents vehicle doors from opening unless the vehicle is docked within the prescribed centre lines of the docking doors.

Dynamic and regenerative braking

Two additional drive system characteristics can be built in. The first is dynamic braking due to the ability of the LIM to generate a negative value of thrust to "brake" the vehicle as long as it continues to move. This is quite easily done in an induction motor control system by switching to a steady magnetising current and letting the eddy currents induced in the moving element generate the negative torque (or drag) passively.

The second characteristic, regenerative braking can be provided with more sophisticated electronic control circuits. This is due to the ability of the LIM to act as an electrical generator when commanded to slow down or stop. Now the generated electrical power can either be fed back into the main power lines or stored in a battery carried on the vehicle. In either case, power is recovered every time the vehicle decelerates or goes down-grade. Therefore, the net power consumed is only that due to losses in the system.

Propulsion control sub-system

All functioning of the propulsion control sub-system must be in permissive agreement with the safety sub-system. Any propulsion control sub-system functions that might jeopardise operational safety are prevented by the safety sub-system.

The propulsion control sub-system is interlocked with vehicle door operating mechanisms as provided by the safety sub-system. The failure mode of the propulsion control sub-system will de-energise the propulsion system, which in turn, will reduce forward propelling torque to zero and increase braking effort to its maximum rated level.

The dispatching programmes (high or low level loading) are part of the vehicle dispatching sub-system, and the propulsion control sub-system will function in accordance with the dispatching programme selected.

Propulsion control functions are initiated by intelligence from the dispatching sub-system. After such functions have begun, they will continue according to the selected pattern without further intelligence from the dispatching sub-system provided that safety requirements are satisfied. (This is a proprietary concept and method belonging to PRT Systems Corporation.)

Drive system considerations

In the proposed Personal Rapid Transit system, there may be more than one vehicle operating over the same area of track. This means that the main propulsion power will have to be common to all vehicles. This dictates that a motor speed control system must be carried on each vehicle.

Since the vehicle is to operate with different loads, up and down grades, and maintain the optimum spacing, speed must be controlled precisely and on command from central computer signals. For passenger comfort and safety as well as long vehicle life, automatic limiting of acceleration and jerk is also required. To include all these capabilities in the vehicle drive system, a control loop is provided.

The LIM, coupled with the vehicle, is fitted with the means for sensing acceleration and speed. The measure of speed is fed back and compared with the command signal representing desired speed. If actual speed is too low, the difference signal is a command to apply more thrust. This signal is compared with the feedback signal of actual vehicle acceleration and allowable acceleration and jerk limits to generate a limited thrust command signal which will not over-accelerate the vehicle. The signal is amplified and fed to the LIM to generate the thrust necessary to accelerate to command speed; always within the allowable limits.

The second characteristic can be provided with more sophisticated electronic control circuits. Regenerative braking is due to the ability of the LIM to act as an electrical generator when commanded to slow down or stop. Now the generated electrical power can either be fed back into the main power lines or stored in a battery carried on the vehicle. In either case, power is recovered every time the vehicle decelerates or goes down-grade. Therefore, the net power consumed is only that due to losses in the system.

We are convinced that the advanced Astroglide system (Fig 8) is the type of public transportation attractive enough to persuade city-bound motorists to leave their cars at home. We know it will release metropolitan areas from the twin strangleholds of pollution and congestion.

Fig. 1.

PRT Systems Corp. Astroglide — Rapid Transit System System

Before

Fig. 3 Original propulsion unit

After

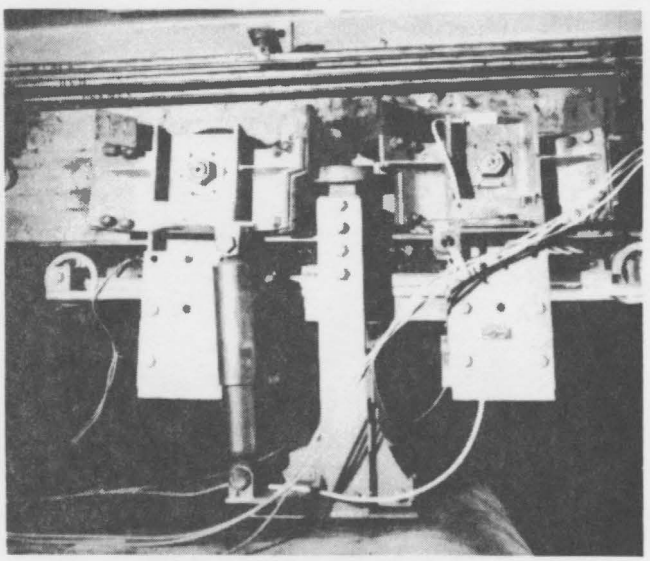


Fig. 4 Converted for propulsion by LIM — weightsaving 2300 lb

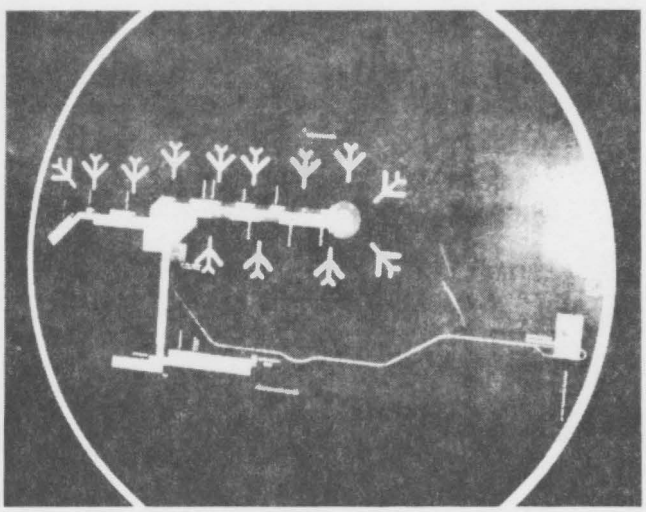


Fig. 2 Braniff International's transit system at LoveField, Dallas, Texas

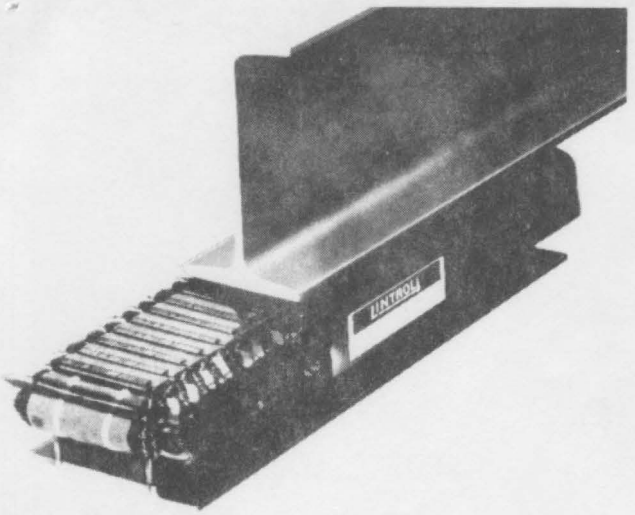


Fig. 5 The LIM: stator windings are mounted on top of the vehicle. The "rotor" is the guideway flange

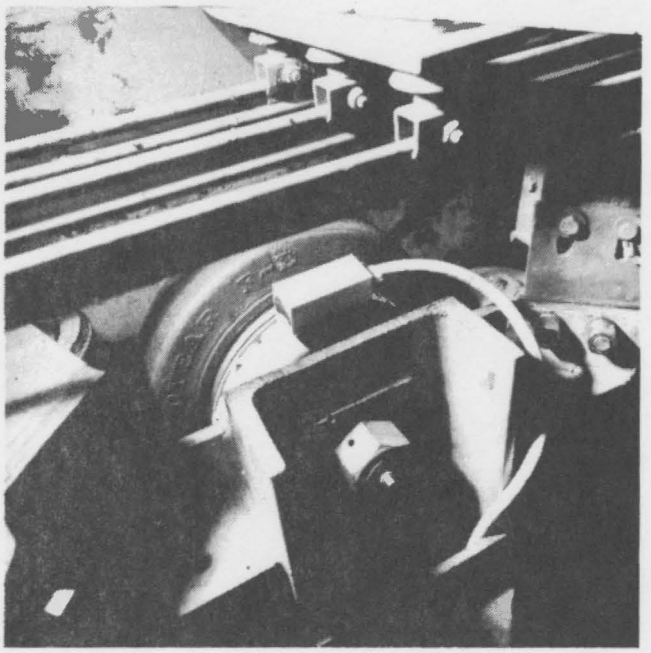


Fig. 7 Vehicle brake system

Fig. 6 Astroglide car carries 10–25 passengers

Fig. 8 An Astroglide station

PRT Systems Corporation

Extending Man's Control Over His Environment

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FORT LAUDERDALE, FLORIDA
DOWNTOWN PEOPLE MOVER (DPM)

JUNE, 1976

BROWARD COUNTY • FLORIDA •

FORT LAUDERDALE, FLORIDA
DOWNTOWN PEOPLE MOVER (DPM)

JUNE, 1976

A proposal for participation in the UMTA Downtown People Mover (DPM) Project

BOARD OF COUNTY COMMISSIONERS
BROWARD COUNTY, FLORIDA

PRT SYSTEMS CORPORATION
1020 Chicago Road
Chicago Heights, Illinois 60411

TABLE OF CONTENTS

I. INTRODUCTION:

The purpose of this report is to present the proposal of the Board of County Commissioners of Broward County, Florida, through participation in the UMTA "Downtown People Mover (DPM) Project," to plan, design, install, operate, maintain and evaluate, the existing Jetrail/Astroglide System, or equivalent technology, selected through established competitive bidding procedures as a primary means of internal circulation in the Downtown Fort Lauderdale urban environment. The proposal will demonstrate that existing and immediate future conditions in Downtown Fort Lauderdale are ideal for participation in this program, and that the system will meet an urgent need through alleviation of serious surface vehicular congestion and uneconomic use of limited land in the CBD for parking.

As the County, under the Charter, (which was overwhelmingly approved by the voters in November, 1974) is responsible for mass transit services countywide, the Board of County Commissioners is the applicant body. Nevertheless the program bears the official endorsements of the City of Fort Lauderdale, the City's Downtown Development Authority and all concerned or effected interest groups. In addition, in keeping with their policy of providing capital assistance in the amount of one-half the non-Federal share, the Florida Department of Transportation has agreed to pay 10% of the total eligible project costs. Their letter to that effect is provided in the appendix to this Proposal.

The Jetrail System in actual existence is presently located (though inactive) at Love Field in Dallas, Texas, owned by Braniff Airlines and connecting the Braniff terminal facility with their remote parking facility. The proposed system would be purchased from Braniff and shipped to Fort Lauderdale for installation. Subsequently, there is the possibility that the conventional propulsion technology be replaced by the Astroglide linear induction motor (LIM) propulsion system, to achieve the significant advantages of mechanical simplicity, increased car capacity, better durability, improved speed, passenger comfort and safety. This conversion could be readily accomplished once such technology becomes fully proven, to the satisfaction of UMTA.

The system will be installed in Downtown Fort Lauderdale in a single track loop configuration (with two by-passes and nine stations) connecting all of the major buildings, activity centers and edge/approach parking areas within the CBD. The physical system and its relation to Downtown elements will be described in detail in Section III.

The applicant County, is prepared to provide, by resolution or other appropriate action or instrument, the assurances required by UMTA. Section 3.1, site selection criteria of the May 1976 program plan.

It has already been shown that the proposed system represents existing, proven people mover technology which would be deployed in an urban environment with minimal modification.

The applicant County is charged, by its Charter, with the planning, construction, operation and maintenance, of the mass

and rapid transit system within the County. The County through its Division of Mass Transit, would be responsible for the proposed Downtown Fort Lauderdale DPM system, and would subsidize an operating deficit should that situation arise. Formal assurance to that effect, satisfactory to UMTA, will be provided at the time the application for a capital grant is filed.

The applicant County has consistently maintained and implemented its policy of providing its existing mass transit operation with the financial support it needs. Its existing bus system serves all of Broward County, with routes historically converging upon Downtown Fort Lauderdale. During the five years since the County acquired the system from private firms, ridership has increased 300%. As part of the County system, the Fort Lauderdale DPM would be assured of adequate financial support, promotional support and inter-modal linkages.

It is believed that the proposed Fort Lauderdale DPM installation will have national relevance and broad transferability inasmuch as Downtown Fort Lauderdale exhibits most of the features characteristic of central business districts in rapidly growing and suburbanizing metropolitan areas: surface vehicular congestion; pedestrian vehicular conflict; inadequate and inconveniently located parking; limited opportunities for improving vehicular flow through the widening of streets and operational improvements; and resulting lesser relative attractiveness of the CBD for new commercial developments.

Although it is not possible at this juncture to quanify cost/benefit relationships, it is believed that the total benefits to be derived from the installation of the system, viewed synoptically, will be at least commensurate with the system cost. A primary basis for this conclusion is that the substantial amount of planned and programmed public and private new development and redevelopment cannot occur in the absence of an internal circulation system independent from, and physically separated from, the surface motor vehicle system. In addition, the system configuration as proposed will provide a needed stimulus to the redevelopment of adjacent deteriorating neighborhoods on the fringes of the CDB.

Energy saving and reduction in pollution concentrations will also be significant. In that regard, it is noteworthy that episodes of toxic concentrations of carbon monoxide have been monitored within the Fort Lauderdale CBD in recent years. There are numerous other second order benefits to be derived from the proposed system, which will be noted elsewhere in this report. For example, the proposed system would afford an excellent opportunity to introduce automated guideway transit to the 924,000 residents and 1,417,000 annual visitors of Broward County. It would foster public confidence in new transit technology and would provide the incentive to use other modes of rapid transit to come Downtown, and to move about the County, as such systems becomes available.

Geographic Location

Fort Lauderdale is the predominant central city of the Fort Lauderdale-Hollywood Standard Metropolitan Statistical Area, which is coextensive with Broward County. Downtown Fort Lauderdale is the predominant municipal central business district within Broward County, and may be considered the County's commercial, administrative and governmental nucleus. The 300 acre Downtown Development Authority jurisdictional area--comprising that portion of what is ordinarily considered to be Downtown Fort Lauderdale containing the most intensive land development and activity--contains, for example, the headquarters facilities of the County's largest financial institutions, the City and County administrative offices, the County Courthouse, the Broward County Regional Office and Courts of the Federal Government (under construction) and the Broward County Regional Office Headquarters of the Florida State Government (under construction).

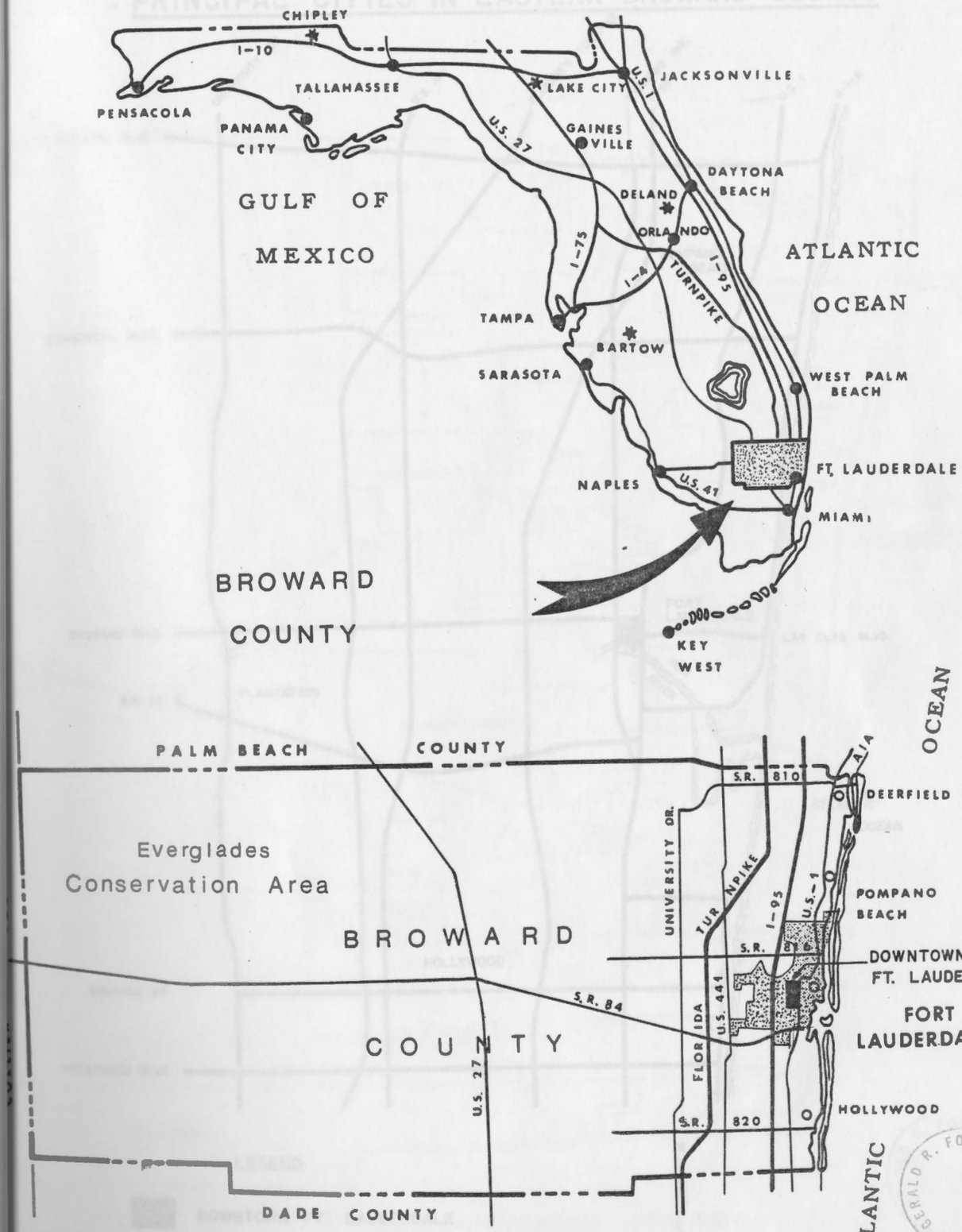
Broward County, in turn, is centrally located within what is commonly known as the Gold Coast region which is comprised of the Atlantic coastal counties from the Palm Beach County on the North to Dade County on the South which contains the major cities of Miami, Miami Beach and Hialeah, and has an estimated population of 1.4 million. Broward County consists of approximately 1,200 square miles, roughly twenty-five miles North to South and fifty miles East to West. The western two-thirds of the County consists of sawgrass ecosystem which has been set aside for water conservation and management purposes, leaving only the eastern most

one-third--410 square miles--subject to urbanization. Of that area, the City of Fort Lauderdale occupies thirty-three square miles at a coastal, east-central location, with the Downtown area occupying one-half square mile.

The remaining three hundred seventy-seven (377) square miles to the East of the levees delineating the aforementioned water management area are occupied by the County's twenty-eight other municipalities (243 square miles) and the County's urbanized and/or developable unincorporated area (134 square miles).

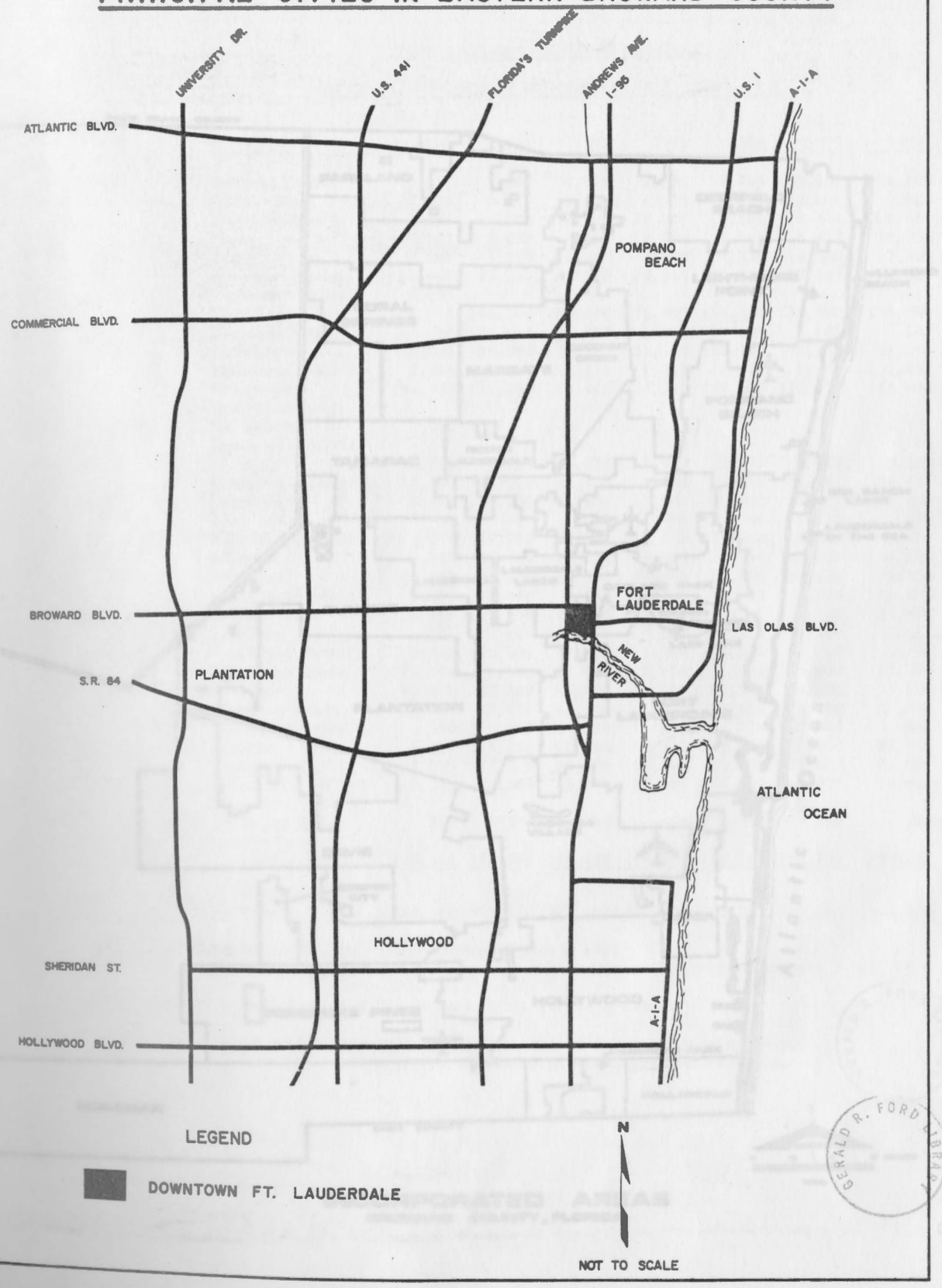
In recent histroy, Broward County has consistently ranked among the leading Counties in the nation in population growth. Between the Census of April 1, 1970 and April 1, 1976, the County's population increased from 620,100 to 924,000--a gain of 49%. During the same time span, the City of Fort Lauderdale, which had little vacant land remaining at the beginning of the period, increased its population from 139,590 to 156,940--a gain of twelve percent. At present there remains approximately 140 square miles subject to development or redevelopment in the County. Current land use planning efforts indicate that, at full development, the County's total population will be 1.7 million.

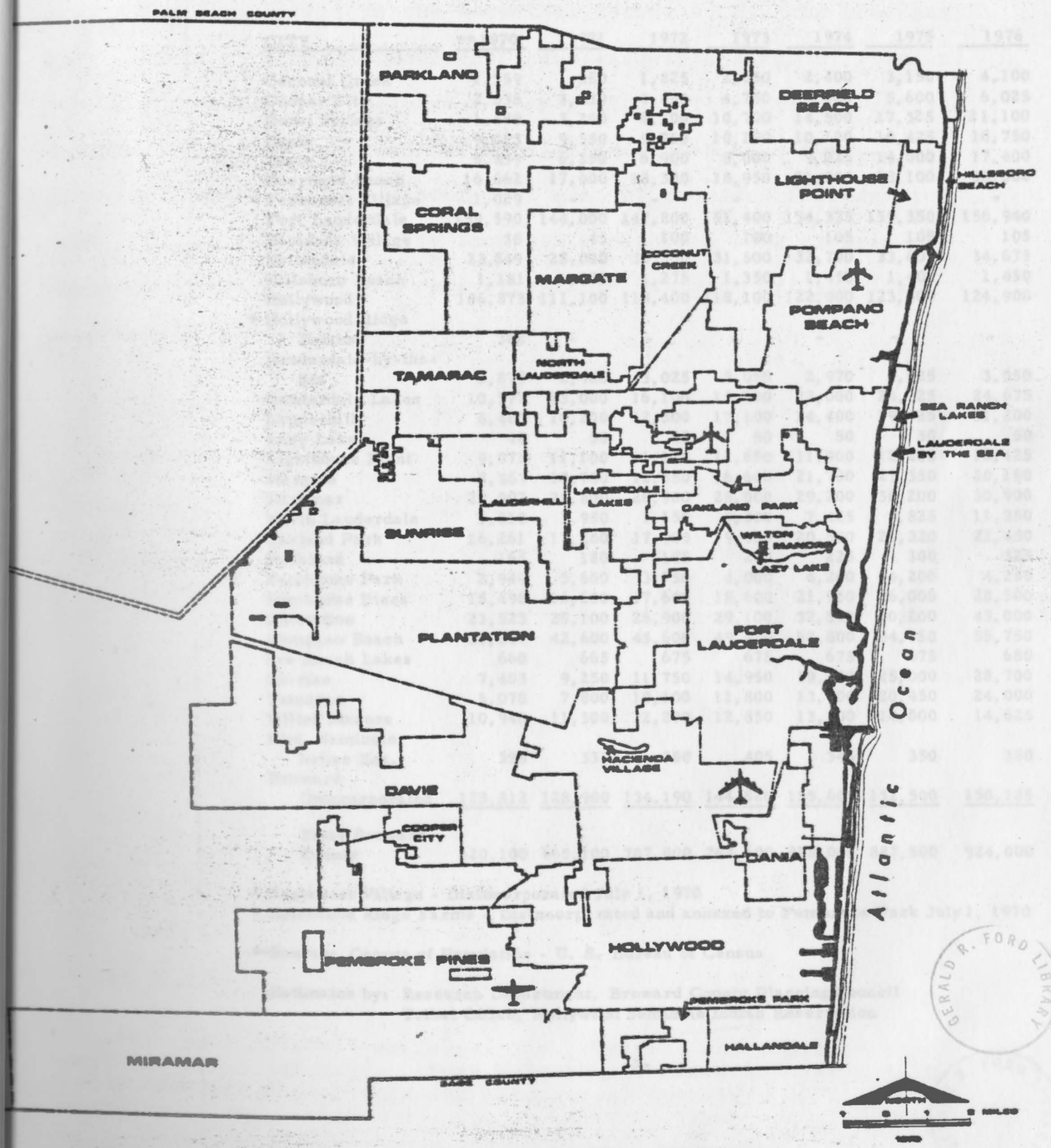
These substantial population gains have been accompanied by concurrent expansion and diversification of commercial and governmental activity--a trend which has been manifested, as will be demonstrated, in substantial demand for construction of intensive, high density office buildings and retail and service facilities within the three-hundred acre Downtown area.



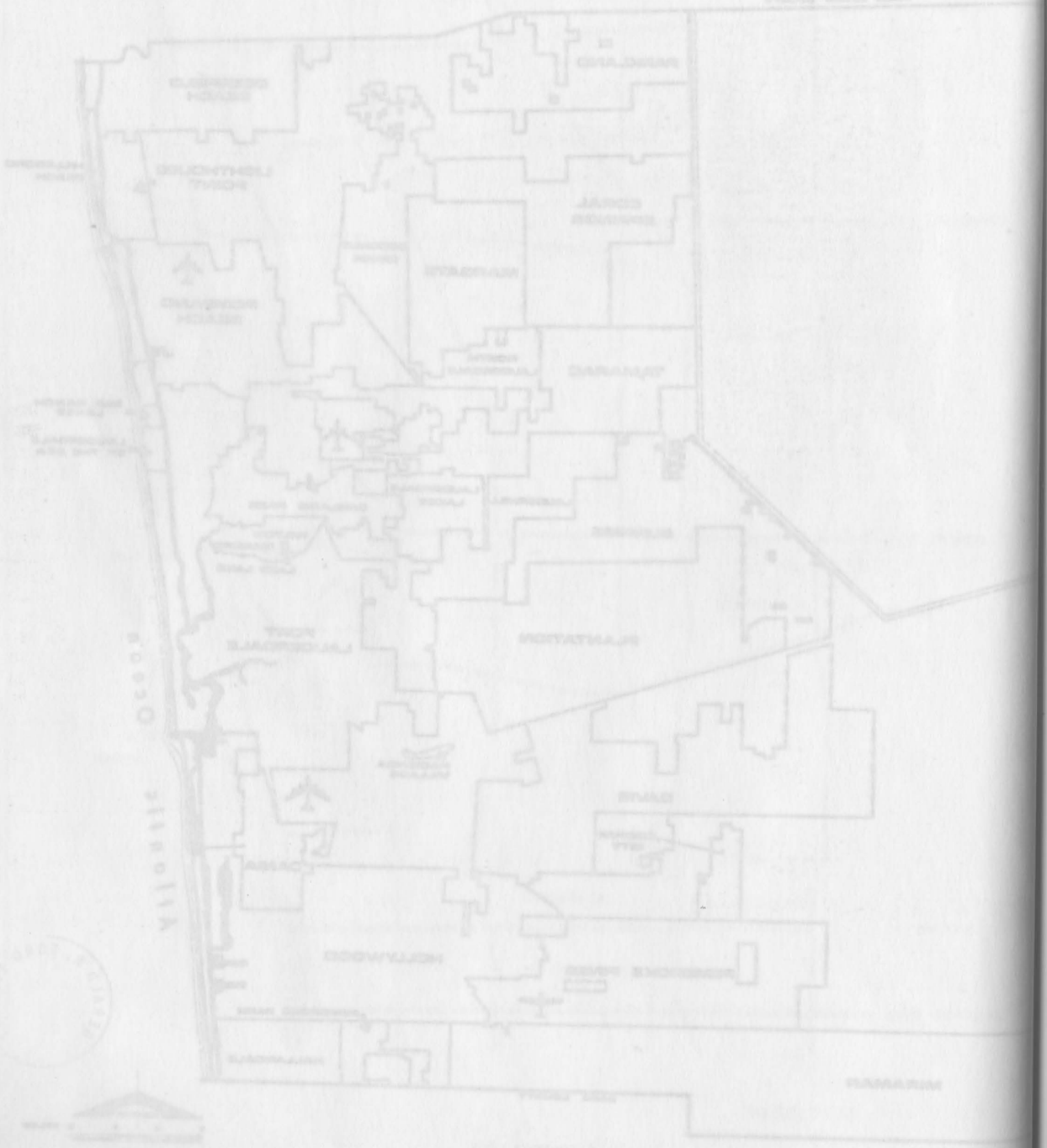
LOCATION AND VICINITY MAPS

DOWNTOWN FT. LAUDERDALE IN RELATION TO MAJOR HIGHWAYS & PRINCIPAL CITIES IN EASTERN BROWARD COUNTY





INCORPORATED AREAS
BROWARD COUNTY, FLORIDA



POPULATION TRENDS AS OF APRIL 1

IN BROWARD COUNTY MUNICIPALITIES, 1970 - 1976

CITY	**1970	1971	1972	1973	1974	1975	1976
Coconut Creek	1,359	1,550	1,825	2,050	2,400	3,150	4,100
Cooper City	2,535	3,250	4,050	4,700	5,000	5,600	6,025
Coral Springs	1,489	3,200	6,100	10,700	14,500	17,525	21,100
Dania	9,013	9,550	9,750	10,100	10,100	10,425	10,750
Davie	5,859	6,250	6,900	8,000	9,225	14,000	17,400
Deerfield Beach	16,662	17,600	18,350	18,950	21,000	28,100	30,000
* Ferncrest Village	1,029	-	-	-	-	-	-
Fort Lauderdale	139,590	144,000	147,800	151,400	154,325	155,350	156,940
Hacienda Village	35	45	100	100	105	105	105
Hallandale	23,849	28,000	30,300	31,500	32,700	33,600	34,675
Hillsboro Beach	1,181	1,250	1,275	1,350	1,450	1,400	1,450
Hollywood	106,873	111,100	114,400	118,100	122,000	123,400	124,900
* Hollywood Ridge Farms	302	-	-	-	-	-	-
Lauderdale-by-the-Sea	2,879	2,980	3,025	3,050	2,970	3,025	3,050
Lauderdale Lakes	10,577	13,000	16,100	19,600	22,000	24,325	24,675
Lauderhill	8,465	10,200	12,800	17,100	24,400	29,025	31,200
Lazy Lake	48	50	50	50	50	50	50
Lighthouse Point	9,071	11,100	11,175	11,650	11,900	12,200	12,425
Margate	8,867	10,700	12,550	16,600	21,700	27,350	30,150
Miramar	23,997	25,800	26,900	28,000	29,200	30,200	30,900
North Lauderdale	1,213	1,950	3,150	5,300	7,425	8,825	11,350
Oakland Park	16,261	17,200	17,900	19,500	20,500	21,320	22,450
Parkland	165	180	185	200	225	300	325
Pembroke Park	2,949	3,600	3,750	4,000	4,200	4,200	4,250
Pembroke Pines	15,496	16,600	17,600	18,600	21,900	26,000	28,500
Plantation	23,523	25,100	26,900	29,100	32,550	40,200	43,000
Pompano Beach	38,587	42,600	45,600	49,400	52,800	54,850	55,750
Sea Ranch Lakes	660	665	675	675	675	675	680
Sunrise	7,403	9,250	11,750	14,950	19,250	25,000	28,700
Tamarac	5,078	7,800	10,100	11,800	13,700	20,450	24,000
Wilton Manors	10,948	11,300	12,200	12,850	13,800	14,000	14,625
Hwd. Seminole Indian Res.	325	330	350	405	345	350	350
Broward Unincorporated	123,812	128,900	134,190	144,820	155,605	152,500	150,125
Total Broward County	620,100	665,100	707,800	764,600	828,000	887,500	924,000

* Ferncrest Village - Disincorporated July 1, 1970
* Hollywood Ridge Farms - Disincorporated and annexed to Pembroke Park July 1, 1970

**Source: Census of Population - U. S. Bureau of Census

Estimates by: Research Department, Broward County Planning Council
Tribal Office, Hollywood Seminole Indian Reservation

Faced with a prospect of substantial volumes of new development and redevelopment in the immediate future within the Downtown, the Downtown Development Authority commissioned a study of internal vehicular movement and volumes in early 1974. This study, released in December, 1974, demonstrated conclusively that an alternative to surface motor vehicle circulation must be provided in order to absorb, in an environmentally acceptable fashion, such planned and programmed development and redevelopment.[1] *Chapter III provides some relevant findings from that study.*

[1] *Kimley-Horn and Associates, Inc., Traffic and Transportation Analysis, New River Center, Fort Lauderdale, Floirda, (West Palm Beach, Florida, Kimley-Horn and Associates, November, 1974, Rev. December, 1974).*

CHARACTER PROFILE

Retail Activities

The heart of Fort Lauderdale's central area is its concentration of retail stores. Almost two-thirds of the persons visiting downtown come there to shop. The central area presently has more total retail space than any of the surrounding shopping centers in Fort Lauderdale.

Office Functions

Downtown Fort Lauderdale's role as a metropolitan center is best illustrated by its multifaceted office functions. It is unquestionably the financial center of Broward County, being the location of five major financial institutions. Four of these are major banks with two being far and away the largest in the County. As of June 1973, the four Downtown banks had 23% of the total assets and 21.1% of the total deposits of all the 57 banks in Broward County. The fifth financial institution in the Downtown is the main office of Broward County's oldest and largest Savings and Loan Association with total assets of almost 839 millions of dollars and savings of almost 731 millions of dollars, as of December 31, 1973.

Downtown contains the Broward County Courthouse as well as the City Hall of the County's largest city, Fort Lauderdale. In addition, the Federal District Court is operating in the old Fort Lauderdale City Hall. The importance of the function of government to Downtown Fort Lauderdale is aptly indicated by the following 1974 Employment (January):

1. Fort Lauderdale City Hall and Annex	476
2. Broward County Courthouse	1,681
3. Broward Community College	93
4. Welfare Offices	300
5. Federal Employees	100
Total Government Employees in Downtown Fort Lauderdale	2,650

As a leading professional center, it has the greatest concentration of law offices in the County. Within a radius of 1½ miles of the heart of Downtown there were 30,140 people employed in 1973, the highest such density in Broward County.

Hotel Accommodations

The major existing downtown hotel is the 102-room Governor's Club and several smaller hotels. These accommodations serve a variety of needs, providing rooms for short-term vacationers, seasonal residents, and business travelers, and facilities for group meetings and social gatherings. The Governor's Club has an important function as a meeting place for local business groups and individuals. The Downtown hotels historically have not been oriented toward tourist business, as are all of the hotels located on the oceanfront. However, preliminary economic studies have revealed a healthy market potential for hotel and related convention facilities in the downtown area and the DDA is now negotiating with a national development firm for the construction of a 600-room hotel with approximately 60,000 square feet of meeting and exhibition space. The study indicates that there are only 7 existing hotel facilities within

the city capable of accommodating conventions. However, none of these can accommodate any convention with more than 500 delegates. Surprisingly, despite the city's location in the heart of the tourist area of Southeast Florida, no new rooms have been added since 1973 while the volume of convention business in existing facilities has increased from 12% in 1970 to 30% in 1976.

Community Facilities

Public and private institutions and organizations are important components of a Downtown area. Civic and cultural activities can add greatly to the vitality of Downtown, not only by reinforcing the drawing power of the business district during the day but by expanding its life into the weekends and evenings. Today the Downtown is not, unfortunately, a true center for community institutions and organizations; however, this trend is beginning to change. The new City Hall has remained in Downtown, the public library is presently seeking a Downtown site for its main branch, the Museum of Arts has relocated in the Downtown area, and there is renewed interest in a cultural center-performing arts hall for the central area.

Housing

At present, few people five in Downtown Fort Lauderdale. The few housing units that do exist are comprised almost equally of one-family, two-family, and small multi-family structures. The majority are scattered on the fringes of the core, particularly east of S.E. Third Avenue.

Riverfront

New River offers a great opportunity for improving the overall environment of the central area.

The New River should be the focus of people-oriented development and the establishment of more green/open space, sorely needed in and about the Downtown. The development of the riverbanks as a natural green-belt for public use, with pocket parks interconnected with natural textured foot and bicycle paths, and with compatible commercial endeavors that would provide amenities and activity in the area is strongly recommended.

Through-vehicle traffic should be discouraged along the riverbanks, and the utilization of small sight-seeing transportation should be initiated in place of private vehicles, particularly along North and South River Drives.

In keeping with the re-naturalization of the river and its banks, the replacement of the current style of vertical seawall with a safer, protective, natural embankment combined with the utilization of low-intensity lighting along the river banks is suggested.

River pollution is a serious existing problem and immediate action must be taken to preserve and protect this irreplaceable asset and prevent further deterioration.

Commercial and recreational development that will enrich the river experience should be encouraged. Provisions for small marinas for the boating community and allied water activity interests should be developed.

The historic role of the river as a transportation artery should be revitalized. Regular ferry service on the river between its banks and points of interest along its course should be instituted.

Floor Area Analysis

Although the present composition of Downtown Fort Lauderdale is characterized by a balance of office and retail uses, it is clear, as will be demonstrated in Chapter III, that the emerging Downtown Fort Lauderdale of the future will be dominated by public and private office uses--mainly governmental, financial, and professional. Currently, the Downtown Development Authority jurisdiction contains 1,678,000 square feet of floor area, of which 985,000, or 59% is office floor area. At the same time, however, firmly programmed public and private new construction within the Downtown Development Authority jurisdiction totals 2,508,000 square feet, of which 2,198,000 square feet will be office. When programmed new construction is added to existing development, it appears that approximately 3/4 of the floor area within the Downtown Development Authority jurisdiction will be office floor area. All together 2,198,000 square feet of new office floor area is programmed for construction. Of that amount, 917,000, will be governmental and 1,281,000 will be private.

COMPOSITION OF EXISTING AND FUTURE FLOOR AREA
DDA JURISDICTION--DOWNTOWN FORT LAUDERDALE

	Existing (1976) (Sq.Ft.)	Planned/ Programmed (Sq.Ft.)	Existing + Planned/Programmed (Sq.Ft.)	(% of Total)
Total	1,678,000	2,508,000	4,186,000	100.0%
Office	985,000	2,198,000	3,183,000	76.0%
Retail	693,000	310,000	1,003,000	24.0%

POLITICAL AND INTEREST GROUP SUPPORT

Under the existing Charter form of government, responsibility for the proposed people-mover project rests with the seven-member Board of County Commissioners. For the past two years, it has been these elected officials who have provided the leadership in earlier attempts to secure UMTA funding for a people-mover demonstration in downtown Fort Lauderdale. The introduction of the people-mover concept to the general community, the undertaking of preliminary studies, and the securing of support from those elements of the community which have an interest in Downtown transit have been roles performed by the Commission. This activity has helped to establish a firm basis for public support for the subject proposal.

To begin with, in 1974 the people-mover proposal was endorsed by the City Commission of Fort Lauderdale, which is the other primary governmental jurisdiction. Concurrently with this endorsement, the Downtown Development Authority of Fort Lauderdale, a public agency created under State enabling legislation, and charged with the broad task of revitalizing the central business district, joined with the City and the County in support of a people-mover demonstration, thus assuring cohesive action by all of the governmental bodies involved. Augmenting this governmental support was the endorsement of several key groups which collectively form a broad based constituency.

II. BACKGROUND

HISTROY OF THE DDA

In response to requests from the City Commission and Downtown business interests, the Florida State Legislature is 1965 created the Downtown Development Authority of the City of Fort Lauderdale. This public agency has the duty to "revitalize and preserve property values and prevent deterioration in the Downtown area." It has broad powers to plan, construct and maintain public improvements in the central business area, and is supported by a special ad valorem levy within its 300 acre tax district.

After a 1971 referendum of voters in the tax district, which authorized the issuance of a $12.5 million bond issue, the agency acquired and prepared for development 12 acres of land located in the core of the business district. The DDA in 1973 entered into a disposition agreement with a national development company. However the economic recession of 1974-1975, which was most severe in southeastern Florida, negated this effort. At present, the agency is up-dating its 1967 development plan for the district, and is concurrently negotiating with developers for the sale or lease of the land that it owns for the purpose of constructing a major convention hotel, a speciality retail center, and supporting parking facilities. The request for proposal-study design for the development plan update is provided in the Appendix.

DDA GOALS

In keeping with the legislative mandate to revitalize the Downtown area, the DDA has adopted the following operational goals which will stimulate investment opportunities by private owners, as well as public bodies:

- *Enact a development plan which will provide for projected growth through a rational arrangement of land uses and functions;*
- *Strengthen the Downtown's role as a financial, professional and governmental center by the addition of good quality office space;*
- *Capture a share of the area's convention and tourist trade by increasing hotel accommodations and building downtown exhibition and convention facilities;*
- *Reestablish the Downtown's position as a retail center by upgrading the existing stores and creating new ones which will appeal to workers, tourists and residents;*
- *Create an efficient and safe circulation pattern within the Downtown and between the Downtown and its contiguous areas and neighborhoods;*
- *Plan and implement a coherent parking program to service shoppers, workers, and business visitors;*
- *Create safe and pleasant pedestrian movement by reducing auto congestion and engine pollution; separating pedestrian from vehicular movement; and providing an alternative to private automobile usage.*
- *Provide marketable building sites for new office and retail facilities, in-town housing accommodations, and area-wide civic and cultural facilities.*

PREVIOUS CONSIDERATION OF AN INTERNAL CIRCULATION FACILITY

The concept of a people mover for Downtown Fort Lauderdale is not new. On the contrary, a recognition of the need for positive program to augment traditional surface pedestrian and vehicular systems emerged and began to crystallize in mid-1974.

In early 1974, the County Commission determined that it would be necessary to construct a new County administrative office building in order that all County agencies might be located at one central location, rather than situated throughout the County, and in order that the County agencies then situated in the Courthouse might be moved to make available, in the Courthouse, space needed for the judicidary. Ultimately, a Downtown Fort Lauderdale site was selected at the northeast quadrant of the intersection of Southeast 6th Street and Southeast 3rd Avenue--directly east of the existing Courthouse. Subsequently, a detailed space requirements study established that a 600,000 square feet facility would be needed to adequately serve the County's needs through the year 2,000.

In April, 1974, the County Division of Planning began work on the Environmental Impact Statement for the building required by the Florida Environmental Land and Water Management Act (Chapter 380, Fla. Statutes). This statute, together with the implementing State administrative regulations required that such an Environmental Impact Statement be prepared for any office development to exceed 300,000 square feet floor area, for review by the appropriate multi-County regional planning agency within whose district the development is located.

The Act further requires that the regional planning agency, in its review, must consider the impact of the development upon the environment and natural resources, the economy, utilities and other necessary public facilities, public transportation facilities and the housing market. The regional planning agency then prepares and submits an advisory report to the local government having jurisdiction which, afer considering the report, formally decides whether to approve, approve with conditions and modifications, or deny the development. The local government must affirmatively resolve all of the issues raised by the regional planning agency in its formal action. Such actions are subject to administrative appeal by the regional planning agency if that agency concludes that the local government has not adequately resolved the issues defined.

Early in the EIS preparation process it became evident that vehicular traffic and air quality conditions would be potentially severe limiting factors, affecting not only the County office complex, but also the future development and redevelopment of the Downtown generally.

During the balance of the year, County officials fnformally surveyed and inventoried potential alternative systems and system elements for internal circulation and parking in high-density urban environments, and entered into a series of exploratory discussions with UMTA officials, transit systems manufacturers and other experts in transit technology.

During late 1974, and early 1975 it was decided that a comprehensive comparative study of alternative systems and system elements would be necessary.

In April, 1975 the County Commission established a local intergovernmental task force--consisting of representatives of the County Planning Division, the Broward County Planning Council, (an autonomous advisory agency), the Florida Department of Transportation, the City of Fort Lauderdale Transportation and Planning Agencies and the Downtown Development Authority--to administer the program and coordinate the local effort on the study. A detailed study design and request for proposal was subsequently prepared by the task force. At about the same time, Braniff Jetrail/Astroglide System in Dallas, Texas, was put up for sale.

On June 11, 1975, representatives of the County, the City, the Downtown Development Authority, Braniff Airlines and the Jetrail/Astroglide manufacturer met in Washington with UMTA Capital Assistance and R & D Officials to explore the feasibility of installing the Braniff System in Downtown Fort Lauderdale, funded by an UMTA capital grant. At the time, there were no demonstration-type programs available, and therefore it was confirmed at that meeting that a formal, comprehensive alternative analysis would be required prior to making application for a capital grant. The alternative analysis study design was also given tenative approval at that meeting. Subsequently, with minor modifications, that study design was incorporated into the study design of the County's Transit Development Program Update which is now scheduled for completion in December of 1976.

It is the County's view that the alternative study should proceed whether or not Jetrail/Astroglide, or equivalent technology, is installed in the Downtown under the UMTA DPM Project. This is because a DPM system, in reality, is an element of a total system for internal movement. Consideration must also be given to at-grade transit vehicles, pedestrian systems (both at-grade and grade-separated) and private vehicular systems. The amount and distribution of parking and the possibility of auto free zones must also be considered, with a view to development of an optimum mix and interconnection of all possible alternative system components.

III. THE PLAN, AND ITS ANTECEDENTS

It has been previously noted that Downtown Fort Lauderdale (DDA jurisdiction) presently contains 1,678,000 sq. ft. of office and retail/service floor area. Furthermore, ten new buildings are firmly programmed to begin construction during 1976-1980, which will add 2,508,000 sq. ft. of floor area to the CBD--an increase of 149%.

Although none of the ten new developments are built and occupied as yet, vehicular capacity deficiencies are nevertheless beginning to appear at many of the internal Downtown intersections, with serious capacity-service level problems projected for as early as 1977. Due to practical land use, right-of-way and financial limitations, these problems cannot be solved by means of street widening, intersection expansion and operational improvements.

The following table, entitled "Peak Hour Volume to Capacity Ratios" depicts results from the December, 1974 "Traffic and Transportation Analysis" by Kimley-Horn and Associates, Inc. That analysis assumed a continuation, through 1977, of the annual rate of traffic increase establishing during the past four years, plus the completion, by 1977, of only one of the ten programmed new developments (the shopping mall).

PEAK HOUR VOLUME TO CAPACITY RATIOS

INTERSECTION	1.	2.	3.	4.
Broward Boulevard & N.W. 1st Avenue	1.10	1.23	1.38	1.11
Broward Boulevard & N. Andrews Avenue	0.90	1.02	1.24	1.16
Broward Boulevard & N. E. 3rd Avenue	1.26	1.53	1.67	1.24
Broward Boulevard & U. S. 1	1.38	1.61	2.00	1.77
S.W. 2nd Street & S.W. 1st Avenue	0.41	0.44	0.74	0.92
S.W. 2nd Street & S . Andrews Avenue	0.44	0.55	0.92	0.99
S.E. 2nd Street & S.E. 1st Avenue	0.28	0.28	0.43	0.34
S.E. 2nd Street & S.E. 3rd Avenue	1.18	1.39	1.91	1.28
Las Olas Boulevard & S. Andrews Avenue	0.64	0.67	0.73	0.88
Las Olas Boulevard & S.E. 1st Avenue	0.25	0.32	0.51	0.58
Las Olas Boulevard & S.E.3rd Avenue	1.11	1.25	1.89	1.83

1. V/C utilizing the existing volumes (1974) and physical conditions.
2. V/C utilizing projected volumes (1977) and existing physical conditions.
3. V/C utilizing projected volumes (1977) plus development traffic and existing physical conditions.
4. V/C utilizing projected volumes (1977) plus development traffic and planned network improvements. (Las Olas Blvd., Broward Blvd., and Andrews Ave.Corridor.)

Note: "plus development" means completion, by 1977, of the proposed Shopping Mall.

The figures show that capacity deficiencies currently exist at five of the eleven intersections studied. By 1977, assuming all planned network improvements are implemented, a sixth intersection (Broward Boulevard-Andrews Avenue) will nevertheless become overloaded and volume/capacity ratios (based on level "C" service volumes) at two critical arterial intersections will be approximately 1.8--approaching a jammed condition.

It is noteworthy that these potentially capacity-deficient intersections are on highways which have been designated as regional trafficways (Broward Boulevard, Las Olas Blvd., N.E.-S.E. 3rd Ave., U.S. #1) on the Broward County Trafficways Plan. These facilities will be further impacted by the ten identified Downtown developments, three of which (Landmark Bank Addition, First Federal, and County Administrative Building) will be "Developments of Regional Impact" (DRI's) subject to the regional impact evaluation process mandated by the Florida Environmental Land and Water Management Act of 1972, (Ch. 380, Fla. Statutes). Serious capacity deficiencies on regional-scale transportation facilities could jeopardize regional impact approval of these important developments.

It is evident that such constraints will preclude the use of surface vehicular systems as a primary means of internal circulation within the future Downtown Fort Lauderdale. Due to the excessive walking distances involved, pedestrian systems, either at-grade or grade-separated, cannot provide a total solution. The future system must be based upon a grade-separated transit facility, such as Jetrail/Astroglide or equivalent technology, and augmented by other compatible system components, such as fringe parking, remote

park and ride and intermediate capacity rapid transit, auto-free zones and other vehicle restrictions, and pedestrian facilities.

The following map shows the layout of the Fort Lauderdale Downtown People Mover System in relation to the existing and future configuration of buildings, activity centers, and parking facilities. The system is characterized as a 1.79 mile clockwise single track loop configuration (with two bypasses and nine stations) and has been designed to maximize accessibility to all of the Downtown's component activity centers.

Since most of the ultimate Downtown (2,508,000 square feet of 4,186,000 square feet) has not yet been built, but is programmed for construction during 1976-1980, Fort Lauderdale offers a significant advantage for participation in the UMTA DPM project over other applicant cities whose Downtowns are already fully developed. In the Fort Lauderdale situation, it will be possible to develop the Downtown in accordance with a comprehensive, unified plan for land use and circulation, and integrate the guideway and the stations into the architecture of the buildings, whereas in a fully developed CBD the DPM System must be simply superimposed upon an existing environment. In the Fort Lauderdale system, stations will be provided inside four of the new buildings (Hotel, State Building, Multi-modal Terminal and Federal Building), thereby providing maximum passenger comfort, safety and protection from inclement weather. Further, it is noteworthy that the Downtown Development Authority, in recognition of the need and opportunity for the aforementioned comprehensive plan, has prepared an overall program design for such a plan and has issued to consultants a request for proposals with submittal deadline be completed in four months.

L E G E N D

EXISTING MAJOR BUILDINGS

1. Ft. Lauderdale City Hall
2. Southern Bell
3. Broward Bank - Burdines
4. Landmark Bank
5. Gore Newspapers
6. Las Olas Building
7. County Courthouse
8. Florida Power & Light
9. Himmarshee Village
10. Broward Community College

IMMEDIATE DEVELOPMENT

*Under Const.....*11. State Regional Office Center - 100,000 Sq. Ft.
*Under Const.....*12. Federal Office Building - 217,000 Sq. Ft.
*1977.....*13. First Federal - 300,000 Sq. Ft.
*Under Const.....*14. Gore Newspapers - 131,000 Sq. Ft.

FUTURE DEVELOPMENT

1977..... 15. Hollywood Federal
1977..... 16. Barnett Bank - 50,000 Sq. Ft.
1978..... 17. Retail & Parking - 250,000 Sq. Ft. - 1500 Cars
Hotel & Convention Center - 60,000 S.F. - 600 Rm
*1978.....*18. Ft. Lauderdale Museum
*1978-1980.....*19. Landmark Bank - 800,000 Sq. Ft.
*1980.....*20. County Administrative Building - 600,000 Sq. Ft.

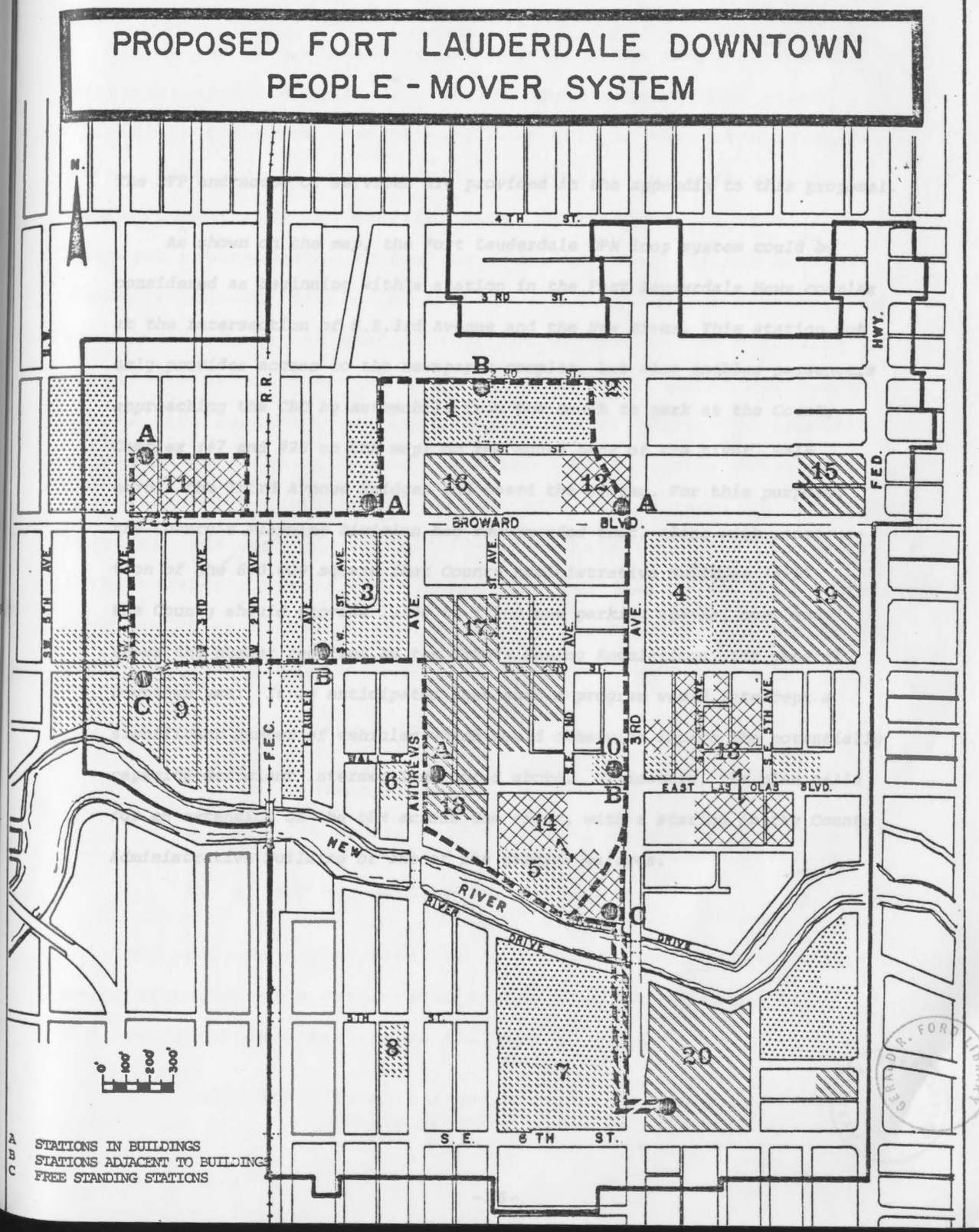
MAJOR PARKING AREAS

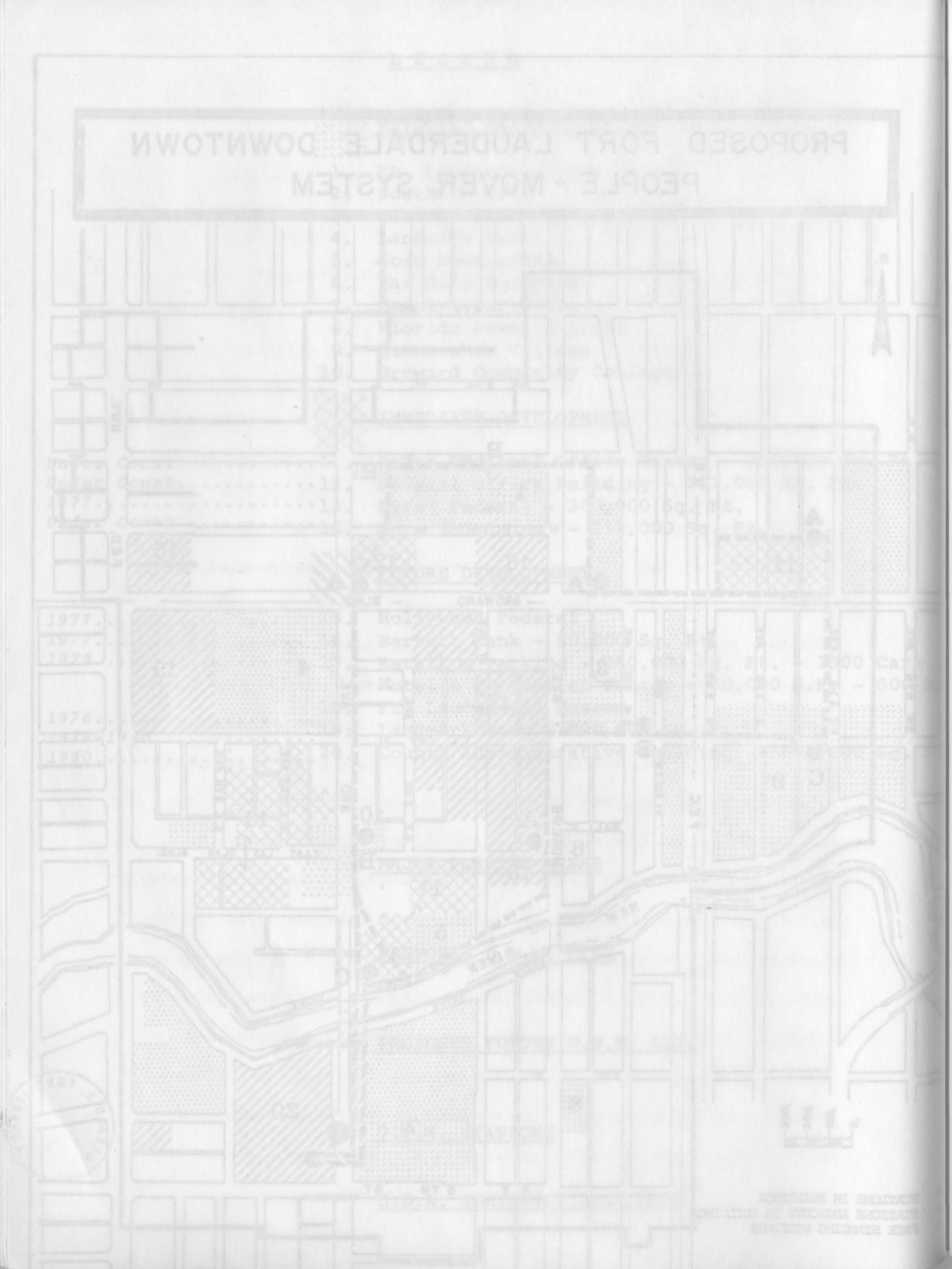
PROPOSED D.P.M. LINE

PROPOSED FUTURE D.P.M. LINE

D.P.M. STATIONS

D.D.A. JURISDICTIONAL AREA





The RFP and scope of services are provided in the appendix to this proposal.

As shown on the map, the Fort Lauderdale DPM loop system could be considered as beginning with a station in the Fort Lauderdale News complex at the intersection of S.E.3rd Avenue and the New River. This station not only provides access to the newspaper complex, but also enables passengers approaching the CBD by automobile from the south to park at the County Complex (#7 and #20 on the map) on the south bank of the river, walk across the Third Avenue Bridge, and board the system. For this purpose, the County's Planning Division has recommended that, along with construction of the 600,000 square feet County Administrative Building (#20) the County should provide 1,100 to 1,700 new parking spaces, over and above the number required by the City's Zoning Regulations, for general Downtown use. It is anticipated that such a program would intercept a significant number of vehicles which would otherwise impact the potentially capacity-deficient intersections noted above. Ultimately, the plan calls for an extension of the DPM across the river, with a station in the County Administrative Building or one of its parking garages.

From the Fort Lauderdale News station, the route proceeds westerly, with the guideway situated above a City-owned linear park along the river then turning northerly to the north of Bubier Park. This routing was carefully selected to completely avoid encroachment upon, and conflict with, these parks, in order to maximize environmental protection and enhancement of the Downtown. There it proceeds northerly, on land owned by the Downtown Development Authority on the east side of Andrews Avenue, to a station provided within the new 600 room hotel. This hotel is one element of the retail-parking-hotel-convention center complex to be built on the 12 acre DDA site, and the station will provide accessibility to all facilities within the complex without the necessity for going outside. The station also provides immediate accessibility to the Fort Lauderdale Museum and the Las Olas Building. The DDA is presently negotiating with private developers for the construction of the following uses on the 12 acre site owned by the agency:

1. *A 600 room hotel.*
2. *60,000 square feet of exhibition, meeting hall and convention space.*
3. *250,000 square feet of retail space, to include a 90,000 square feet speciality department store.*
4. *A 1500 car parking structure.*

Negotiations are expected to be concluded this summer with Board selection of a developer. Preliminary target dates under the development process are as follows:

July 1976 - Developer selected by DDA Board and option agreement executed.

November 1976 - Developer's feasibility study completed and submitted to DDA Board.

June 1977 - Developer's preliminary architectural and financing studies completed.

June 1978 - Final construction drawings completed, temporary and permanent construction loans arranged and construction begins.

From the hotel, the route proceeds northerly on DDA land and then easterly on the north side of S. W. 2nd Street right-of-way to a station which will be located either in the parking garage (377 spaces) of the Downtown's largest retail facility, Burdine's Department Store, or in the public parking lot (331 spaces) which adjoins the Burdine's site on the west. Taken together, this garage and lot comprise one of the largest parking complexes in the downtown area.

The route then continues to proceed westerly on S.W. 2nd Ave. entering the Himmarshee Village Histroic Area, a low-profile rustic shopping district, to a station on the site of the main Post Office, which is located within the Village. This station will provide access to the Village shops and attractions, and to the Post Office itself, which is one of the largest traffic generators within the DBD.

This post office is comparable in size and activity to main post offices in substantially larger cities. It has a four square mile service area, consisting of the Downtown and its fringes, which contains 8,000 families and 1,300 businesses, as well as the City, County, State and Federal offices, all of which use the facility. It has 2,000 post office boxes--a comparatively substantial installation--and averages 600 teller window transactions per day.

In addition, it is expected that this station will serve as a stimulus to the redevelopment of the potentially deteriorating area west of the Florida East Coast Railroad between S.W. 2nd Street and West Broward Boulevard.

In 1971, the City Commission of Fort Lauderdale designated the Himmarshee Village area of the downtown as an historical district to be protected and primarily developed by the City. Himmarshee Village is located just west of the main area of the downtown, is approximately 12 acres in size, and is the site of the earliest development in Fort Lauderdale around the turn of the century.

The preservation program to date has accomplished (1) the complete restoration of the King-Cromartie House, the first residential dwelling in the city which now serves as a museum and headquarters for the Junior League of Fort Lauderdale; (2) a $100,000 renovation of the old New River Inn which now houses a Children's Museum of the see, feel, touch type; and (3) renovation of the original post office building (which had been a supermarket since 1936) back to its original use as an active postal facility.

In addition, along S.W. 2nd Street antique dealers and artisans have restored the old commercial structures into a lively retail street in keeping with the new City preservation controls. At present the City is about to build a replica of the first schoolhouse in the area and has just completed a riverfront program in the district which includes walkways, gas lighting, and landscaping. The area today is the focal point of the

City grade schools' historical enrichment program and enjoys the support of the community which is committed to continuance of the preservation efforts to date.

The route then proceeds northerly on the east side of S.W.-N.W. 4th Avenue right-of-way to connect with a station to be provided within the northwest portion of the new 100,000 square feet State of Florida Regional Office Center. It was decided to place this station in the northwest part of the State complex, in order to maximize accessibility to the adjoining declining neighborhood at the northwest fringe of the CBD, and thereby provide an impetus for redevelopment of that neighborhood.

From the State Building Station, the route proceeds easterly on the north part of the State property and then southerly on the eastern edge of the State property to the northern side of the Broward Boulevard right-of-way--a routing necessary to avoid costly acquisition and demolition of sound, private industrial buildings--and then easterly to the new multi-modal transportation terminal at the northwest guadrant of the intersection of Broward Boulevard and Andrews Avenue.

Situated at the intersection of the main arterial highway approaches to the Downtown, as well as at the juncture of the primary future intermediate capacity rapid transit routes (if, as expected, the Florida East Coast Railroad right-of-way is selected as the north-south route) this multi-modal terminal will be the County's transportation hub. All inter-city and local bus lines will converge on the terminal, wherein space

will be provided for as many as 40 buses at one time. It will also contain, in addition to the DPM station, the ICRT station and a helipad. In addition, the complex will contain extensive transit system maintenance facilities and the administrative offices of the Broward County Division of Mass Transit.

At this location in the loop a bypass will be provided, going from the multi-modal terminal back to the State Building. This will enable passengers arriving at the terminal by another mode of transportation to take the DPM directly to the State Building, by vehicle command, without having to ride the entire loop. (The other bypass will be at the Fort Lauderdale News station, to provide vehicle storage in off-peak periods.)

Within the multi-modal terminal, the DPM station will be located at the south end. This location will maximize access to nearby buildngs.

The route then proceeds north from the terminal over alley right-of-way to the south side of N.W.-N.E. 2nd Street to a station at the northern end of the City Hall property. A northern location was selected for two reasons. It will be most accessible to the deteriorating neighborhood to the north and will stimuluate its redevelopment. As part of such redevelopment, it is anticipated that a fringe parking facility will be provided on the north side N.E. 2nd Street, across from City Hall.

From the City Hall station, the route proceeds easterly along the northern edge of the City property and then southerly along the eastern edge of the City property to a station within the new 217,000 sq. ft. Federal Office Building and Courthouse.

This station will be located in the extreme southeastern portion of the building so as to maximize access to the northerly portions of the DDA's retail-hotel-convention center facility and the Landmark Bank complex.

The route then proceeds southerly along the west side of S.E. 3rd Avenue to connect with a station on the Broward Community College Downtown site--a 2,000 student facility specializing in business administration and community service programs for Downtown workers and nearby residents--which will also provide direct service to the shops, restaurants and financial institutions on East Las Olas Boulevard. From there the route goes due south to the Fort Lauderdale News station.

In the process of planning the route just described, local officials examined soil survey information based on a foundation investigation report, involving 33 borings, prepared for the DDA by Frank G. Bryant and Associates, Inc., Consulting Engineers. Representative results are provided in the Appendix to this proposal.

Based on all available soil data and on the fact that the proposed route of the DPM system passes some of the City's newest office buildings, all of which were built using standard pile or spread footings or after construction, there do not appear to be any soil conditions that would preclude the use of standard pile foundation designs.

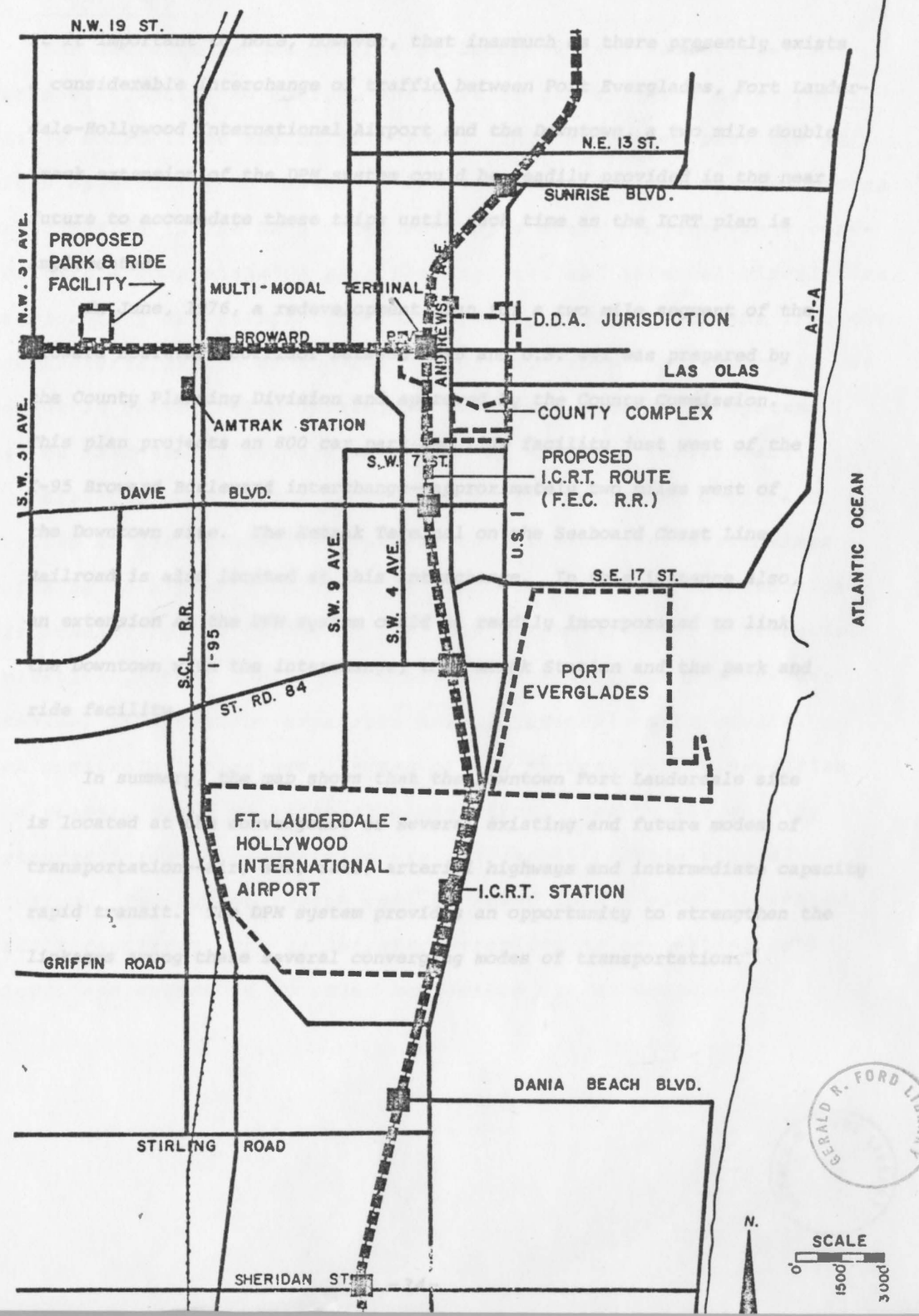
PROPOSED DOWNTOWN FORT LAUDERDALE DOWNTOWN PEOPLE-MOVER SYSTEM IN RELATION TO EXISTING AND PROPOSED REGIONAL TRANSPORTATION FACILITIES

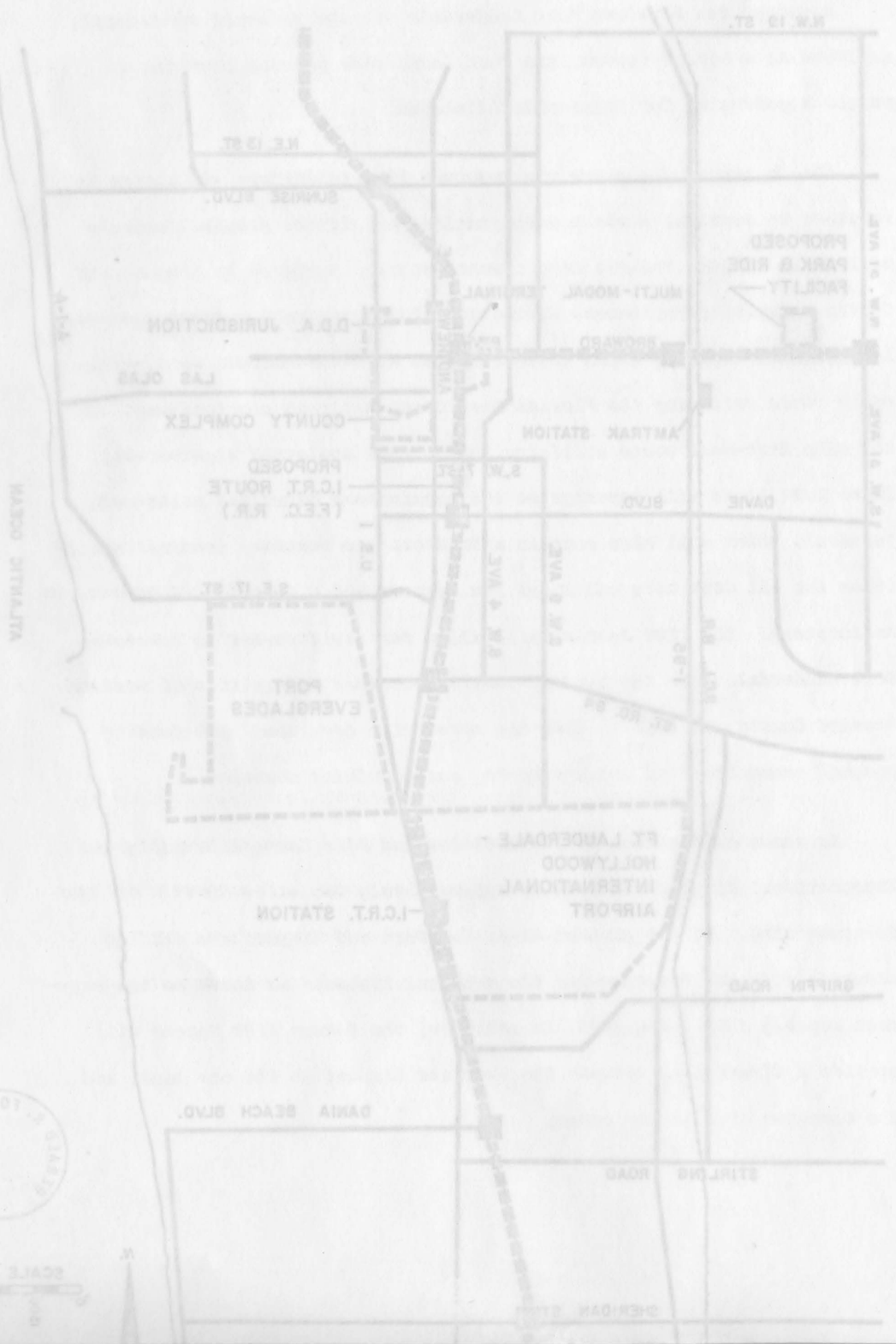
Although the Downtown Fort Lauderdale DPM system could be feasibly deployed as a closed system, the Fort Lauderdale setting provides a unique opportunity for inter-modal linkages.

The following map shows the Downtown Fort Lauderdale DPM system in relation to regional-scale transportation facilities. Broward County's officially adopted Transit Development Program, prepared by Simpson and Curtin Consulting Engineers, during 1970-1974, projects a fixed guideway intermediate capacity rapid transit system with the eastern most north-south route utilizing the Florida East Coast Railroad right-of-way, and the main East-West route utilizing the Broward Boulevard right-of-way. These ICRT lines will converge at the hereinabove described multi-modal terminal, which will also contain a Downtown DPM station, terminal facilities for all intercity and local bus systems and a facility to accomodate helicopters. The ICRT systems will allow for rapid access to Downtown Fort Lauderdale from the rapidly growing suburban communities of western Broward County, as well as from the more fully developed high-density coastal communities of Broward County and adjoining counties.

As shown on the map, Port Everglades and Fort Lauderdale-Hollywood International Airport are located approximately two miles South of the Downtown site. At the present time, the Port and Airport are readily accessible to the Downtown via the arterial highways as shown on the map--most notably U.S. 1 and I-95. In addition, the future ICRT System will provide a direct link between the Port and Airport on the one hand, and the Downtown site on the other.

PROPOSED DOWNTOWN FORT LAUDERDALE DOWNTOWN PEOPLE-MOVER SYSTEM IN RELATION TO EXISTING AND PROPOSED REGIONAL TRANSPORTATION FACILITIES





It it important to note, however, that inasmuch as there presently exists a considerable interchange of traffic between Port Everglades, Fort Lauderdale-Hollywood International Airport and the Downtown, a two mile double track extension of the DPM system could be readily provided in the near future to accomodate these trips until such time as the ICRT plan is implemented.

In June, 1976, a redevelopment plan for a two mile segment of the Broward Boulevard corridor between I-95 and U.S. 441 was prepared by the County Planning Division and approved by the County Commission. This plan projects an 800 car park and ride facility just west of the I-95 Broward Boulevard interchange--approximately two miles west of the Downtown site. The Amtrak Terminal on the Seaboard Coast Line Railroad is also located at this interchange. In this instance also, an extension at the DPM system could be readily incorporated to link the Downtown with the interchange, the Amtrak Station and the park and ride facility.

In summary, the map shows that the Downtown Fort Lauderdale site is located at the convergence of several existing and future modes of transportation--air, sea, rail, arterial highways and intermediate capacity rapid transit. The DPM system provides an opportunity to strengthen the linkages among these several converging modes of transportation.

IV. CONCLUSION

The ultimate future profile of Downtown Fort Lauderdale is just now beginning to emerge, and most of its ultimate development will be constructed during 1976-1980. This situation provides an unique opportunity to install a Downtown People Mover system through participation in the UMTA Downtown People Mover Project, in accordance with a comprehensive plan for land use and internal circulation, incorporating and integrating the guideway and the stations into the architectural design of the new buildings. This opportunity is not present in other, fully developed, Downtowns, where DPM systems must be essentially superimposed upon an existing environment.

Although none of the 10 programmed buildings are built and occupied as yet, vehicular capacity deficiences are nevertheless beginning to appear at many of the internal Downtown intersections approaches. Due to practical land use, right-of-way and financial limitations, these problems can not be solved by means of street widening, intersection expansion and operational improvements. Such constraints preclude the use of the surface vehicular system as a primary means of internal circulation. Due to the walking distances involved, pedestrian systems cannot provide a total solution. The future system must be based upon a grade-separated transit facility. such as Jetrail/Astroglide or equivalent technology, and augmented by other compatible system components.

V. OPERATION AND MAINTENANCE COSTS

An estimate has been made for the operation and maintenance costs associated with this system. It should be pointed out that the accuracy of this estimate is based on two key assumptions. The effect of these assumptions is discussed below.

1. *Mileage traveled per vehicle:*

   Since actual demand is unknown, it has been assumed that the system will operate on a twenty (20) hour day, seven (7) days a week schedule. The twenty (20) hour day has been broken down into two ten (10) hour periods. One period assumes peak usage in a scheduled mode. The second ten (10) hour period assumes one fourth usage of the peak period. Usage of all ten (10) vehicles on an equal distribution basis has been assumed, with each vehicle traveling approximately sixty-thousand (60,000) miles per year.

2. *Administrative and operation personnel:*

   Approximately fifty percent (50%) of the total operation and maintenance costs are for management and operation of the system. It has been assumed that the following personnel will be required to operate the system:

Maintenance mechanic	*1 man full time= 8 hr/day, 5 day/wk*
Electronic technician	*1/2 time, 5 days per week*
Custodian	*1/2 time, 5 days per week*

The maintenance mechanic and electronics technician most probably won't be utilized one-hundred percent (100%) of the time; however, outside contracts for their services would be more costly. The maintenance personnel and custodian could be available from other existing positions with the County maintenance organization. The following table shows the O & M costs and associated functions:

FUNCTION	*% TOTAL COSTS*
Personnel	*50*
Physical plants & guideway	*5*
Electrical/electronics	*15*
Rolling stock (vehicles)	*19*
Utilities	*9*
Miscellaneous	*2*
	100 %

The total cost for the yearly operation and maintenance is estimated to be approximately $100,000. Based on the total number of miles traveled, the cost of operation is approximately $.30 per vehicle mile.

At peak capacity of 15 passengers per vehicle, the estimated cost per passenger trip is approximately $.025. However, for load factors less than maximum, the cost per passenger trip will increase.

VI

PROJECT BUDGET

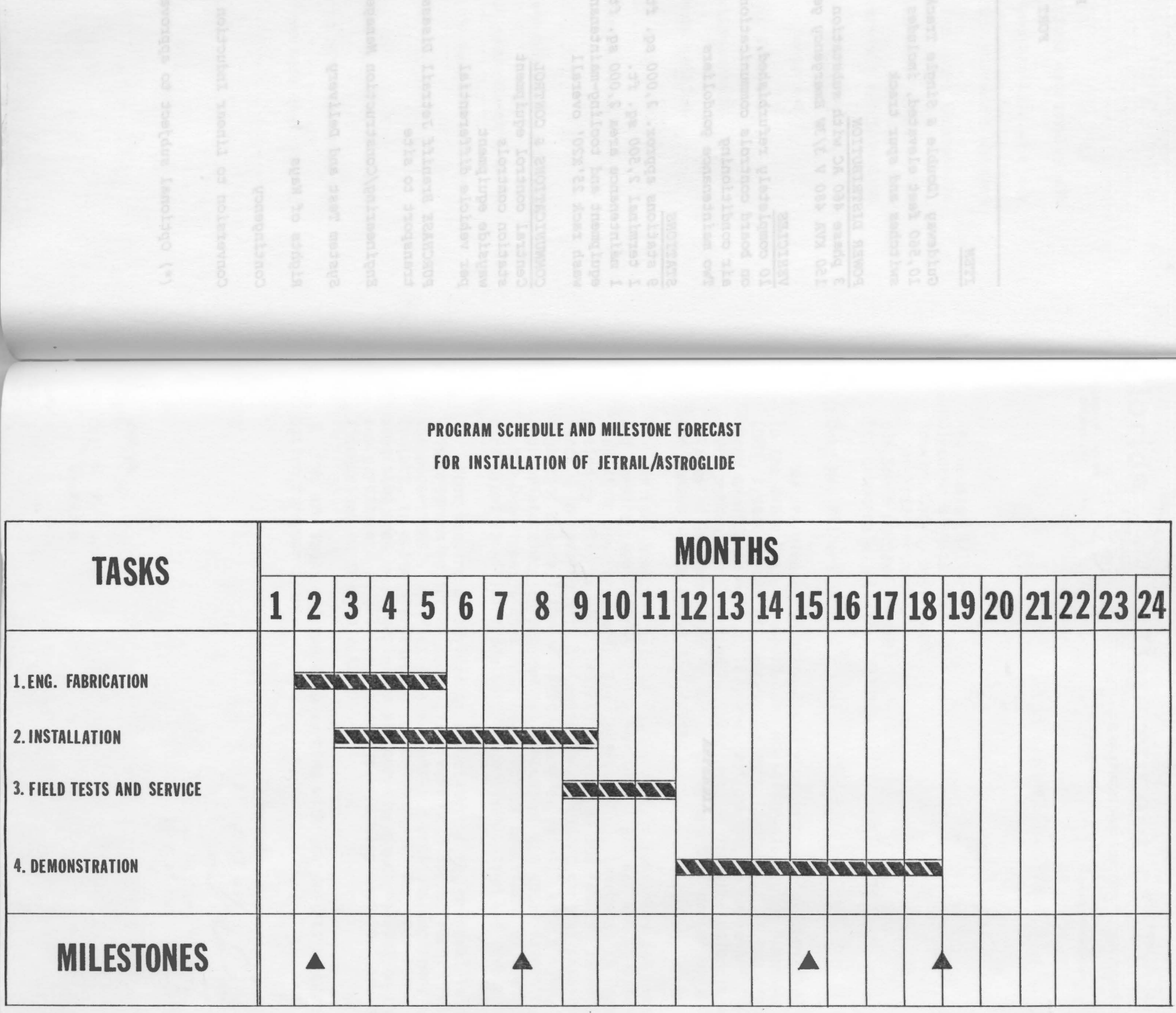
FORT LAUDERDALE, FLORIDA

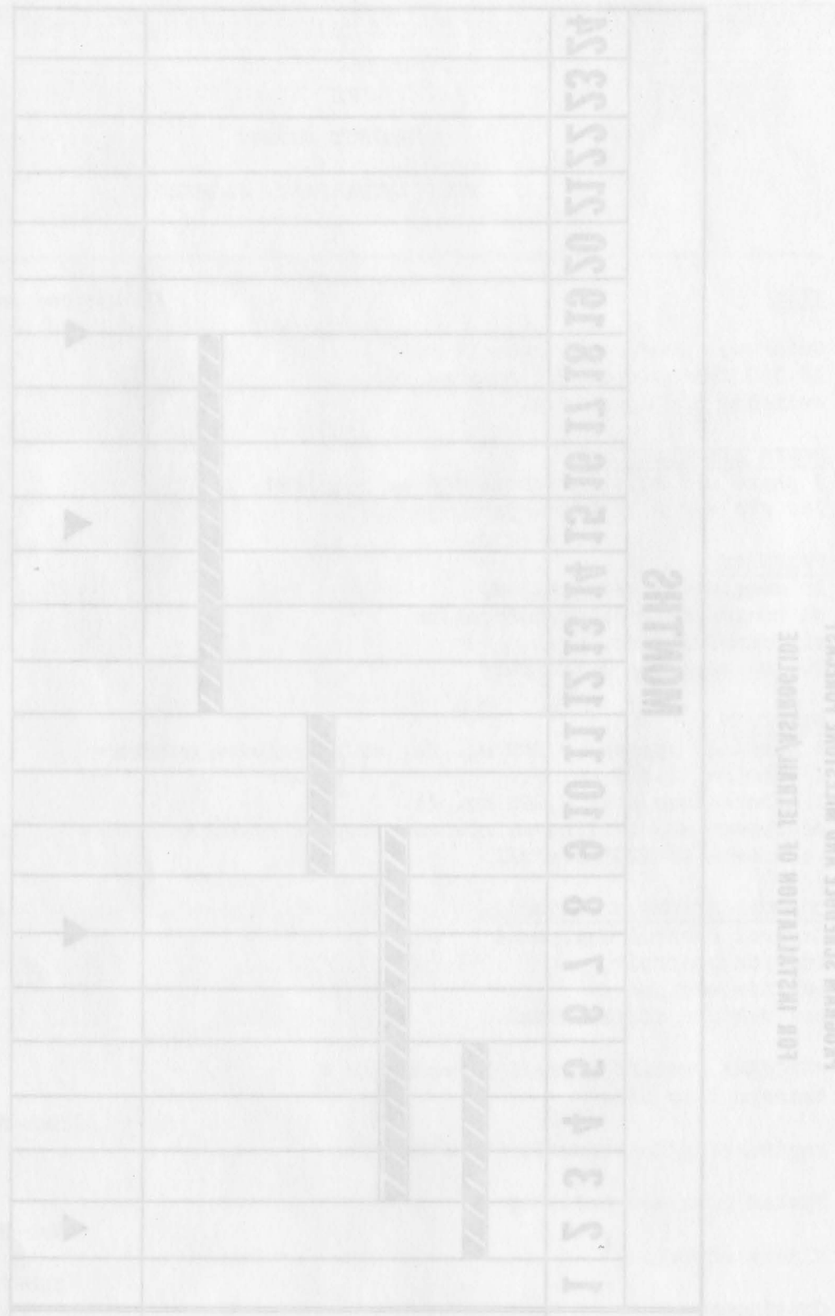
ITEM		(Estimates in 1976 Dollars)
Guideway (Double & Single Track) 10,560 feet elevated, includes (6) switches and spur track		$1,010,000
POWER DISTRIBUTION 3 phase 460 AC with substation as required 150 KVA 480 V 3/3W Emergency generator		800,000
VEHICLES 10 completely refurbished, on board controls communication air conditioning Two maintenance gondoliers		260,000
STATIONS 9 stations approx. 2,000 sq. ft. ea. } Includes entrance door 1 terminal 2,500 sq. ft. 1 maintenance area 2,000 sq. ft. equipment and tooling-maintenance repair transfer bridge wash rack 25'X20' overall		1,350,000
COMMUNICATIONS & CONTROL Central control equipment station controls wayside equipment per vehicle differential		500,000
PURCHASE Braniff Jetrail Disassemble & transport to site		1,800,000
	Sub-Total	$5,720,000
Engineering/Construction Management		300,000
System Test and Delivery		300,000
	Sub-Total	6,320,000
Rights of Ways		1,000,000
	Sub-Total	7,320,000
Contingency		1,000,000
Conversion to Linear Induction Motor*		250,000
	Gross Project Cost	8,570,000

(*) Optional subject to approval

PROGRAM SCHEDULE AND MILESTONE FORECAST

FOR INSTALLATION OF JETRAIL/ASTROGLIDE





Florida Department of Transportation

REUBIN O'D. ASKEW
GOVERNOR

TOM WEAR, JR.
SECRETARY

May 28, 1976

Mr. Houston Miller
Director of Mass Transit
Broward County Department
of Transportation
609 South Andrews Avenue
Ft. Lauderdale, Florida 33301

Dear Mr. Miller:

We are pleased to acknowledge your interest in submitting a proposal to the Urban Mass Transportation Administration for a Downtown People Mover (DPM) system in the Ft. Lauderdale urbanized area. As you are aware, only three candidates will be selected, nationwide, to implement the design on a DPM system, and the Florida Department of Transportation is vitally interested in committing resources to ensure that one-or-more candidates are chosen in the State of Florida.

We feel that the City of Ft. Lauderdale possesses the characteristics and service requirements suited for such a project and we pledge our full support to your proposal. Our understanding, in regards to funding participation by UMTA, is that the program will be 80% Federal funds and 20% Local funds. In keeping with our policy of providing capital assistance in the amount of one-half the non-Federal share, we will take action, at the appropriate time, to program ten percent of the total eligible project costs in the Department's Work Program. Florida Department of Transportation participation will include both the project design and construction phases.

Your keeping us advised on the status of the proposal is necessary to this programming action and will be very much appreciated. Mr. Bill Walsh, the Department's District 4 Mass Transit Operations Engineer, will be your contact, in matters related to the DPM proposal for your city. It is suggested that he be copied on all correspondence related to the project and participate in all local meetings regarding technical and policy discussions on the project.

We are looking forward to working with you on this new transportation system for your city.

Sincerely,

William Miller, Director
Division of Mass Transit Operations

WM:rb

cc: W. K. Fowler
B. Walsh

Florida Department of Transportation

REUBIN O'D. ASKEW
GOVERNOR

Haydon Burns Building, 605 Suwannee Street, Tallahassee, Florida 32304, Telephone (904) 488-8772

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William Miller, Director
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WWM:rb

cc: W. K. Fowler
B. Walsh

centrum charrette

may 8-9 update '76

UPDATE '76

REPORT

1976 Update, the third annual gathering of Centrum Charrette, was held on Saturday, May 8th from 8 a.m. to 10 p.m. and on Sunday, May 9th from 1 p.m. to 8 p.m. -- 21 hours of concentrated study by the 97 participants from all fields of endeavor and interest.

Centrum Charrette Update '76 produced the following recommendations:

1. The Urban Renewal Plan for the Northwest sector should be re-studied by the City.
2. The new Centrum Charrette leadership should encourage the formation of a strong Northwest Committee with adequate representation from the area.
3. Convention business can be a large economic benefit to the entire city.
4. Fort Lauderdale can constructively use convention display space of approximately 50,000 sq. ft.
5. There should be formed a quasi-public agency to facilitate the development of convention facilities on a cooperative basis between the public and private sectors.
6. The downtown area should incorporate within its boundaries pools, canals, green space (stressing indigenous trees and plants), soft and attractive, but adequate-for-safety, lighting and architecture that lends itself to the open, outdoor environment.
7. Stress the importance of using the river as a visual focal

point with all architecture and environmental development consistent with the concept of open space in the approximate 7 acres bordered by the river, Andrews Avenue, Stranahan Park and East 1st Avenue. Underground parking is consistent with this concept.

8. The entire old Broward Hotel site, bounded by S. E. 1st Avenue to Andrews Ave., from Bubier Park to Las Olas, be acquired by the City for civic purposes and that approximately one-third of the area be used for the Arts Museum.

9. In the event that an overall cultural plaza concept should be approved on DDA land within the time frame of the Museum of the Arts program, and if acceptable to the Museum's directors, an alternate location for the Museum may be desirable.

10. We encourage the establishment of a downtown library center be located within this cultural area, if possible.

11. Nighttime use of existing commercial parking facilities in the area be encouraged.

12. The downtown area should be exemplary in its use of signs and graphics. We recommend the passage of the current ordinance proposed by the City Sign Advisory Board.

13. Urge the City to appoint a Community Appearance Board to annually present awards to encourage existing property improvement and environmentally sensitive design.

14. Recommend that all architecture and landscaping in the downtown area be designed with people safety in mind.

15. Recommend that the DDA investigate the feasibility of the "Andrew Carnegie Financing Proposal" (but not the physical buildings as included in the paper).

16. In order to preserve and enhance esthetic values in the downtown area we recommend well-designed seating for pedestrians, varied textures, horticulturally-named trees, exotic flower beds, flower carts and flower shows, childrens' entertainment, band shells, puppet and sculpture shows, unique eating places, farmers market, street dances, day-care facilities, activities to encourage pedestrian traffic, lookout areas for viewing other activities in progress, the elimination of overhead wires, gaslights, colored lights along the river, parking for bicycles, 24 hour activities, graphics for signs and exhibits of art and garden groups.

Corridors:

17. a. Study and fix, if possible, the trail of an above-ground, downtown, tracked, people mover loop or loops, with provision for expansion, so that an orderly growth pattern can be encouraged, and building adjustments be considered which interfaces with adjacent residential and commercial areas.

b. Vacation of some streets to thru traffic to develop inter-grated super-blocks with better perimeter access.

c. Continue studies of the Andrews Avenue by-pass question in terms of above-grade parking access, above-grade loop logistics and wider parameters.

d. To prepare for a re-densified downtown, maintain strong efforts to improve downtown related existing corridors; if possible, develop parallel access grade separations criteria to suit local conditions, and work towards their acceptance on state and national levels, i.e., Broward and Andrews at FEC; Broward and U.S. 1.

e. Intensify studies of street scenes to increase green floor and canopy amenities, i.e., grassed concrete grade parking, tree islands, planted traffic divertor islands.

f. Re-study possible elimination of present FEC corridor at grade and possible alternatives.

g. Develop practical covered and pleasant foot-walk corridors, possible improvement of bicycle corridors to transit interchanges.

h. Continue intensive efforts to improve capacities of corridors, i.e., Broward Blvd., signalling, remove obstacles such as dumpster service, load service and turn situations.

Systems:

18. a. Consider as an early possibility the creation of a light-weight elevated sidewalk and light-tracked, or untracked, people mover system on the agreed corridor to connect major

commercial centers downtown, within reach of adjacent or mingled residential areas and parking.

b. Study and implement existing bus routes in terms of an at-grade bus or voyager loop with shuttle service to satellite parking as a temporary measure.

c. Prepare for the interfacing of ground transportation systems with probable tracked people mover systems, both urban and inter-urban.

d. Develop a long-range (possibly 50 years) financing and cost-benefit study for coordinated transportation systems, including analysis of current people mover proposals. Look carefully at duo-mode and transfer systems which combine street vehicles with tracked systems.

e. Develop detailed planning and action for a transportation terminal with provisions of interfacing of all ground and elevated systems. Provide amenities, including very limited shopping and interfaced short-term parking. Present planned locations seem excellent if above-grade connections and crossing of FEC corridor are provided for.

19. Endorse the acquisition of the Dallas people mover but express a need for a larger loop than the present request to UMPTA has specified.

20. Endorse need for re-study and adjustment of densities resulting from the natural nodular effect of a fixed rail people mover system.

Parking:

21. Develop cooperative managed parking systems to encompass all core area parking, out-area satellite parking and in-town vertical parking, possibly combined with vertical buildings at lot line junctures.

22. Adjust parking requirements downtown to practical needs.

23. Under benefit tax arrangements, spread the cost of managed parking systems, including in and out satellites. Combine the parking needs of several buildings, where practical (i.e. church-commercial, nighttime cultural-daytime commercial,etc.). Develop merchant validation systems.

Incentives:

24. Develop incentives for smaller vehicles, fewer personal vehicle miles, use of out-area parking (i.e., locate parking for small vehicles close in, possibly at lower rates). Develop systems for escalating parking rates in critical areas and de-escalating rates in sateilite areas.

25. Develop density codes downtown based on practical moving and static transportation statistics, and quality of life factors; use transferable development privileges to encourage stacking of floor area in trade for permanent green or open space. Relate parking requirements to actual needs.

26. Encourage development of low density codes for residential structures downtown, possibly combining with commercial structures (i.e., where residents do not own or use automobiles regularly).

27. Continue intensive efforts to minimize second car needs thru encouragement of single system student busing, neighbor-hood reacing transportation systems, and walkable shopping and working distances.

28. Create incentives and a voluntary clearing house for staggered working hours between business and governmental units.

29. Encourage parking under and behind landscaped areas (i.e., Gore parking lot on New River, new condo at Sea Ranch Lakes).

30. Work intensively to diminish transportation interface obstacles and timing (i.e., very wide double slide doors on buses).

31. Encourage principle of residence in the governmental jurisdiction of employment.

Obstacles:

32. Define red-tape restrictions to agreed courses of action; work intensively to remove local, state and national restrictions to a progressive development program (i.e., parallel let-down grade separations in lieu of high-speed, spaghetti-type cross-overs, U-turns, code restrictions to interfacing transportation with buildings, jurisdictional separators).

33. Recommend that helicoptor uses be studied during the ensuing year.

34. Preserve significant open space and vista in the area between Stranahan Park, Bubier Park and the river.

35. Recommend developing open spaces downtown that vary in size and placement in order to yield a more interesting relationship between open space and building mass.

36. If the central area is left open from Bubier Park to Stranahan Park recommend creating a parking-service-transportation mall below with open space and the PRT on the upper level.

37. Recommend to the Broward County Planning Council that plans be included in their open space plan for the acquisition by the County Commission of a minimum 5-acre park in the downtown area.

38. A system of transferable rights, which equitably addresses independently each parcel of land in the DDA district, should be developed. This would be for the purpose of transferring parking, open space and development intensities, such as providing on-site parking for transients, bulk parking at satellite locations by the private sector -- coordinated by a public entity -- and the further organization of open spaces of significant size interspersed in addition to, or in conjunction with, on-site open space.

39. The Charrette, at a later date, should arrive at an equitable percentage of open space for a ground floor, and develop a formula for increasing the open space with an increase in height, and also tie in a minimum set-back based on the volume of the structure.

A sample solution (not finite):

25% open space (arbitrarily)
½% increase per ten ft. in height

Therefore,

1-story building - 25% open
10-story building - 30% open
20-story building - 35% open, etc.

40. Recommend that the area west and north of the historical area, bounded by Broward and 7th Avenue, be a higher developed use in order to protect the historical area. The area directly adjacent to the river should be developed with low-density and small scale structures.

41. The PRT system may create the desirability for changes in density on its route. Therefore, the zoning categories and housing densities must be re-studied to insure healthy re-development.

42. Recommend a mix of housing units to serve the downtown area and a multiple use of land, i.e. housing over commercial thru a new zoning category. We feel the overall density downtown of 100 units per acre is presently too high and should be re-studied. Downtown canyonitis must be avoided - therefore, open space must be developed throughout all parcels.

43. Encourage continuing participation in the various grant-in-aid programs offered by the Dept. of Housing and Urban Development for projects involving neighborhood rehabilitation, historic area preservation, landmark preservation, architectural rehabilitation and preservation, and the improvement of environmental quality.

44. Recommend to the DDA that they concentrate necessary construction on lots C, B and 28 in order that the maximum visual corridor and park-like area and/or cultural facilities may be retained in blocks A, 27 and 31 because it is essential to the success of the urban core to retain open space from Stranahan Park to Bubier Park.

45. Recommend a plan be developed providing for sheltered, connecting walk-ways between structures where at all possible.

Monorail:

46. a. That the municipalities and the county proceed with an all-out effort to secure the monorail, Astro-Glide system.

b. That the monorail system be connected with all major structures proposed by the DDA, governmental and private sectors.

47. The circuit should interface with surrounding residential areas as well as commercial, governmental and transportation facilities; a suggested profile circuit would include the area immediately north of City Hall.

48. Recommend some type of architectural theme be unified so as to keep building consistent with a beautification code.

49. Recommend commercial areas of the city have attractive, sheltered rest and sitting areas.

50. Support after-six activities, i.e., street functions, etc.

51. Recommend transportation systems <u>first</u> as a means of promoting growth.

52. Recommend the development of a parking management system or district by the city and/or county.

53. The BCTA should create an on-grade loop for downtown local traffic immediately.

54. The BCTA should move ahead with implementation of a Sunrise-to-Airport bus service.

55. The Gate City site is recommended as one of the alternate locations to the Broward Hotel site for the Museum and cultural center if the Broward Hotel site proves to be too small.

56. Support a cooperative private enterprise convention center rather than a center that is financed by the public sector, i.e., the center would be financed by a joint hotel venture with support of the public sector rather than a tax-supported bond issue.

57. The '75 Update River and Historical Reports should be implemented as rapidly as possible.

58. Orient the downtown area to an open, outdoor environment with air-conditioning de-emphasized.

59. Explore ways to discourage vehicular traffic and encourage pedestrian ways.

60. Support the concept of developing trams, buses, voyagers, pedestrian ways, boats as related means of major transportation.

61. The character of E. Las Olas Blvd. should be extended both east and west in future development.

62. Recommend that utility structures be camouflaged in a meaningful manner as they are in some industrial areas.

63. Recommend boat buses between beach and downtown be implemented.

64. We commend the Century Banks, Inc. for the use of the Fort Lauderdale National Bank and the helpfulness of the personnel with whom we had contact.

List of Participants in UPDATE '76 attached.

centrum charrette

may 8-9 update '76

LIST OF PARTICIPANTS

Thomas J. Adler
Charles E. (Pete) Allen
Edna K. Allen
Irma Allen
Dick Anderson

Janet Black
Ruth Byrd
Ish Byus
Bill Bigoney
Connie Bigoney
Martha Barnett
Elliott Barnett
Mary E. Brooks
Mark B. Brown
D. M. Burkam
Ginny Bishop
Jim Blackburn

Bob Cox
Sara Calvetto
Anthony Cangelosi
Kevin Cangelosi
John Cincotta
Hibbard Casselberry

Betty Duckworth
Beth Dunlop
Ted Drum
Eason Dobbs
A. DeGraffenreidt

Oliver F. Erickson

Bret Frazer
Bill Farkas
Michael Feay
Roschell Franklin
Phyllis Finney

Linda Gott
Tom Gustafson
Philip Gott
John Gerren
Alberto Gomez

Adeline Holton
Bob Hansen
Mark Hansen
Paul Hansen
Katti Hansen
Charles Harnden

Robt. (Skip) Johnston
Sam Jamison

W. R. Kirkpatrick

Louann Lang
Gary Lang
Chauncey Lever

Jan Mink
Gigi McGuire
Alan Mink
Dick Mercer
Dolly Martin
Bob McMahon
Rita McSwiney
Broward McDonald
Houston Miller

David Nightingale

Marjean Packard
George Polk
Charles Palmer
Joanne Powell
Ken Powell

centrum charrette may8-9 update'76

LIST OF PARTICIPANTS

Randy Raiman
Bill Roop
Arnold Ramos
Doug Ruth
Dick Reitz

Gerald Shaw
Terry Sjogren
Mrs. Leo Silver
Mrs. Bertil Stenmark
William H. Smith
Julius R. Shappek
Richard Schulze
Bill Strachan

Mary E. Tucker
Morris (Cliff) Tucker
Bob Tuthill

Oscar G. Vagi
Derek Vanderploeg
Peggy Volke
F. Louis Wolff
Bea Williamson
Capt. Charles White
Col. W. Wilson
Lois Ann Williams
Mrs. Edna Williams

Catherine Yardley
Virginia Young
Jacqueline Young

Pete Zambito

Mayor E. Clay Shaw

County Commissioner Jack Moss

RESOLUTION AUTHORIZING THE FILING OF AN APPLICATION WITH THE DEPARTMENT OF TRANSPORTATION, UNITED STATES OF AMERICA, FOR A GRANT UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED.

WHEREAS, the Secretary of Transportation is authorized to make grants for mass transportation projects; and

WHEREAS, the contract for financial assistance will impose certain obligations upon the applicant, including the provision by it of local share of project costs; and

WHEREAS, it is required by the U. S. Department of Transportation in accord with the provisions of Title VI of the Civil Rights Act of 1964, that in connection with the filing of an application for assistance under the Urban Mass Transportation Act of 1964, as amended, the applicant give an assurance that it will comply with Title VI of the Civil Rights Act of 1964 and the U. S. Department of Transportation requirements thereunder.

WHEREAS, it is the goal of the Applicant that minority business enterprise be utilized to the fullest extent possible in connection with this project, and that definitive procedures shall be established and administered to ensure that minority businesses shall have the maximum feasible opportunity to compete for contracts when procuring construction contracts, supplies, equipment contracts, or consultant and other services. NOW, THEREFORE,

BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS, THE GOVERNING BODY OF BROWARD COUNTY, FLORIDA:

Section 1. That Gerald F. Thompson, Chairman of the Board of County Commissioners of Broward County, or in his absence Anne Kolb, Vice-Chairperson, is authorized to execute and file an application on behalf of Broward County, Florida, with the U. S. Department of Transportation, for acquisition of funds to assist in the construction of an automated people mover system including all necessary associated equipment and rights-of-way.

Section 2. That Gerald F. Thompson, Chairman of the Board of of County Commissioners of Broward County, or in his absence Anne Kolb, Vice-Chairperson, is authorized to execute and file with such application an assurance or any other document required by the U. S. Department of Transportation effectuating the purposes of Title VI of the Civil Rights Act of 1964.

Section 3. That L. A. Hester, County Administrator, is authorized to furnish such additional information as the U. S. Department of Transportation may require in connection with the application or the project.

ADOPTED this 11th day of May, A. D. 1976.

ATTEST:

BROWARD COUNTY, through its
BOARD OF COUNTY COMMISSIONERS

L. A. Hester, County Administrator and Ex-Officio Clerk of the Board of County Commissioners of Broward County, Florida

By _____
Its Chairman

RESOLUTION NO. 75-134

A RESOLUTION ENDORSING THE CONCEPT PRESENTLY UNDER CONSIDERATION BY THE BROWARD COUNTY COMMISSION WHEREBY THE BROWARD COUNTY COMMISSION WILL ACQUIRE AND INSTALL A MONORAIL SYSTEM IN DOWNTOWN FORT LAUDERDALE.

WHEREAS, Braniff International Airlines has offered to sell to Broward County existing monorail system valued by Braniff International Airlines at $4 million but offered for sale to Broward County for $1.5 million; and

WHEREAS, the aforementioned monorail system, if purchased and acquired by Broward County, would be installed in downtown Fort Lauderdale; and

WHEREAS, the City Commission of the City of Fort Lauderdale endorses the acquisition and installation of said monorail system as aforementioned; and

WHEREAS, the City Commission of the City of Fort Lauderdale agrees to cooperate with Broward County in making available to Broward County existing rights-of-way for the installation of said monorail system;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF FORT LAUDERDALE, FLORIDA:

SECTION 1. That the City Commission of the City of Fort Lauderdale, Florida hereby endorses the concept whereby Broward County will acquire from Braniff International Airlines a certain monorail system and install said monorail system in the downtown area of Fort Lauderdale, and the City Commission of the City of Fort Lauderdale agrees to cooperate with Broward County in the installation of said monorail system, should it be acquired, by making available to Broward County the use of existing rights-of-way for the installation of said monorail system.

SECTION 2. That a copy of this Resolution shall be furnished to the Broward County Commission.

ADOPTED this the 22nd day of April, 1975

Mayor-Commissioner

ATTEST:

City Clerk

75-134

CITY OF
FORT LAUDERDALE
FLORIDA

OFFICE OF THE CITY CLERK

P. O. DRAWER 1181 • 33302

March 25, 1974

Mr. Houston Miller, Executive Director
Broward County Transportation Authority
546 S.E. Third Avenue
Fort Lauderdale, Florida

Dear Mr. Miller:

On behalf of the City Commission of the City of Fort Lauderdale, I am enclosing a copy of Resolution No. 74-54, approving the concept of installation in downtown Fort Lauderdale of a Personal Rapid Transit System, as adopted on February 19, 1974.

Sincerely,

(Mrs.) Marguerite Docen
City Clerk

MD/bm/sce

Enclosure

Greater Fort Lauderdale CHAMBER OF COMMERCE

RESOLUTION NO. 74-54

A RESOLUTION OF THE CITY COMMISSION OF FORT LAUDERDALE APPROVING THE CONCEPT OF INSTALLATION IN DOWNTOWN FORT LAUDERDALE OF A PERSONAL RAPID TRANSIT SYSTEM.

WHEREAS, the City Commission has viewed a presentation explaining how a personal rapid transit system could benefit the City of Fort Lauderdale; and

WHEREAS, after observing such presentation and listening to several authorities on the subject, the City Commission is now desirous of formally endorsing the concept of installing in downtown Fort Lauderdale a personal rapid transit system;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF FORT LAUDERDALE, FLORIDA:

SECTION 1. That the City Commission of the City of Fort Lauderdale does hereby formally approve the concept of the installation in downtown Fort Lauderdale of a personal rapid transit system.

ADOPTED this the 19th day of February, 1974.

Virginia S. Young
Mayor-Commissioner

ATTEST:

Margaret Doan

Greater Fort Lauderdale

CHAMBER OF COMMERCE

208 S.E. THIRD AVENUE • P.O. BOX 1581
FORT LAUDERDALE, FLORIDA 33302 • (305) 522-4721

March 22, 1974

Mr. Houston Miller
Executive Director
Broward County Transportation Authority
546 S.E. 3rd Avenue
Fort Lauderdale, Florida 33301

Dear Mr. Miller:

The board of directors of the Greater Fort Lauderdale Chamber of Commerce takes this opportunity to express to you our support of the proposed monorail demonstration system.

We further urge that the monorail be tested and studied for possible longterm use in Broward County as a viable part of a transportation network to aid in the area's efficient growth and progress.

We wish to stress our opinion that, when created as a link in a transportation system using other modes to feed passengers from outlying districts, the monorail system will be a major facet of Fort Lauderdale's downtown revitalization.

It is our hope that a recommendation will be made for the monorail's most extensive usage in terms of length and every effort will be made to determine its most economical and effective use in Broward County.

Sincerely,

F. Peter Clements
Chairman of the Board

REQUEST FOR PROPOSAL

DOWNTOWN DEVELOPMENT PLAN UPDATE

June 3, 1976

DOWNTOWN DEVELOPMENT AUTHORITY
305 South Andrews Avenue
Fort Lauderdale, Florida

Downtown
Development
Authority ——— Fort Lauderdale, Florida 33301

SUITE 218-LAS OLAS BLDG.
305 SOUTH ANDREWS AVENUE
TELEPHONE...305 463-6574

RE: REQUEST FOR PROPOSAL---DEVELOPMENT PLAN UPDATE FOR DOWNTOWN FORT LAUDERDALE, FLORIDA

Gentlemen:

The Downtown Development Authority of the City of Fort Lauderdale (DDA) is seeking a consultant to update the agency's downtown planning effort. For your information the DDA is a public agency created by a special act of the State of Florida and is charged with the task of revitalizing the central business district. It is supported by an ad valorem levy on all real and personal property located within its 300 acre taxing district. The agency has broad development powers including the power of eminent domain and the power to issue bonds to finance its activities.

The DDA has acquired and prepared for development approximately 12 acres of land located in the core of a rapidly growing metropolitan Fort Lauderdale. At present, the DDA is negotiating the disposition by sale or lease of this site to developers for the purpose of constructing a major convention hotel and a significant retail complex.

The general plan for the development of the area was prepared in 1967 and revised in 1971. Since then a number of development activities have occurred which were not anticipated and which shape the future potential of the downtown area. These activities are identified on the attached Exhibit I entitled "Development Highlights".

The Authority is in need of updating its planning process and requires professional assistance which will help it to:

1. Evaluate specific proposals presented to the Authority by developers by assessing such factors as proposed uses, location, design, and construction.

2. Adopt a general development guide for the future growth of the 300 acre downtown district with special emphasis

on land uses, parking, traffic and transit planning.

3. Prepare an illustrative site plan and disposition plat for the 12 acres owned by the DDA to assist in integrating and coordinating construction proposed by developers, either private or public.

4. Make recommendation on route alignment and stations for a proposed monorail distribution system for the downtown area.

A more specific scope of services is attached as Exhibit II.

Consultants will be evaluated and selected in conformance with the Florida Consultants' Competitive Negotiation Act (Florida Statutes 287.055). Proposals must be submitted to the DDA no later than July 5, 1976 and shall contain the following information:

1. A description of the firm's background and specific experience in performing downtown related planning activities.

2. A statement on the proposed management plan for this program which will (a) explain the firm's organizational structure; (b) identify key personnel responsible for specific work activities; and (c) provide resumes for principal staff and key personnel.

3. A financial statement in sufficient detail to demonstrate that the firm is financially sound and possesses a good credit rating.

4. Information on the firm's current work load, availability of personnel and willingness to meet time requirements.

Proposals should be submitted in two copies and addressed to the following:

William Farkas, Executive Director
DOWNTOWN DEVELOPMENT AUTHORITY
305 South Andrews Avenue, Suite 218
Fort Lauderdale, Florida 33301

The DDA has not yet set a specific budget figure for the work. Before setting a budget figure, the DDA wants to know how detailed a plan update consultants can provide at a price, which the

consultants deem reasonable. At that time DDA will be able to be more specific concerning the desired level of detail for the plan update and request final proposals from consultants.

If additional information concerning this request is needed, please contact the agency.

Very truly yours,

DOWNTOWN DEVELOPMENT AUTHORITY

William Farkas
Executive Director

WF/ds

Attachments: Exhibit I - Development Highlights
Exhibit II- Scope of Services

EXHIBIT I

DEVELOPMENT HIGHLIGHTS

I. PRESENTLY UNDER CONSTRUCTION

* A 217,000 square foot Federal Office Building estimated to cost $20,500,000.

* A Regional State Office Building containing approximately 100,000 square feet and estimated to cost $7,500,000.

* A $14,000,000 expansion and modernization program for the Fort Lauderdale News and Sun Sentinel.

* A $250,000 City park along New River on land assembled by the DDA.

* A $100,000 restoration of New River Inn located in the Historic District.

II. PLANNING AND DESIGN NOW UNDER WAY

* A 300,000 square foot headquarters building for the First Federal Savings and Loan Association, the largest Savings and Loan in Broward County.

* A 600,000 square foot office building to house Broward County's administrative functions.

* New bank facilities for Barnett Bank of Fort Lauderdale and Hollywood Federal Savings and Loan Association.

* Widening of Broward Boulevard from 4 to 6 lanes between I-95 and Federal Highway.

* A $300,000 modernization and repair program for Andrews Avenue bridge.

III. PROPOSED NEW DEVELOPMENTS

* Construction of a 2½ mile, fully automated, downtown shuttle system using monorail technology.

* A 100,000 square foot general office building to be constructed by a local development group contiguous to the DDA site.

* Twin office towers to be located on the rear portion of the Landmark tract.

* A new downtown transportation terminal with administrative headquarters for the Broward County Transportation Authority.

* A $1,500,000 art museum to be built on DDA owned land by the Fort Lauderdale Museum of the Arts.

EXHIBIT II

SCOPE OF SERVICES

I. TASKS TO BE PERFORMED

The four crucial decision areas facing the DDA, i.e., developer's proposal, general plan, site plan, and automated transit are all interrelated thereby making it difficult today for the DDA to assess which decisions it will be required to make and in what order. Therefore, the tasks listed below are not to be considered a sequenced series; they are more an identification of the several work elements to be performed in close collaboration with DDA staff during a complex planning process.

Task No. 1. Review previous economic, planning, traffic and parking studies provided by the DDA. Establish liaison with key agencies and institutions and become familiar with companion studies now under way and under the direction of these agencies. (The principal study is the Transit Development Program update under the auspices of the Broward County Planning Council).

Task No. 2. Review the status of public and private developments either under way or proposed in the district but outside the DDA disposition site in order to understand what "givens" exist and where modifications are possible.

Task No. 3. Assist in the preparation of preliminary development goals for the district; identify physical design concepts; and outline broad development policy options available to the DDA.

Task No. 4. Develop a framework to guide decisions within the DDA district. Such a framework should not take on the nature of an "end plan". What is sought is a broad yardstick to measure specific developments which are proposed. The Authority is interested in understanding alternative land use relationships; systems for vehicular and pedestrian movement; the arrangement and characteristics of public open space; the form and function of parking areas; and a concept for graphics, street furniture, street landscaping and signs. These elements should provide the basis for recommending changes to the existing downtown zoning and parking ordinances.

Task No. 5. Prepare an illustrative site plan and disposition plat which gives physical form to the DDA's goals for development of its site. The plan should deal with the location of a convention hotel, a retail complex, parking facilities, and civic/cultural uses; the intensity of development; building

heighth and bulk considerations; street and service road areas; pedestrian walkways and plazas; suggested facade treatment and building materials; and general environmental features to be encouraged.

Task No. 6. Recommend modifications, where necessary, to a proposed route alignment and station locations for a monorail loop distribution system. This will involve a close working relationship with the Broward County Division of Mass Transit, the agency responsible for delivery of this system. The transit system represents a major development potential; however, it cannot be firmly predicted that such system will be constructed. Therefore, the product from this task must be capable of being severed from the other planning products, i.e., the consultant's recommendations for the downtown area must be sufficiently flexible to provide for not only the construction of the monorail system but also to recognize that the system may not be built.

Task No. 7. Assist the DDA in analyzing and evaluating specific development proposals submitted by public and private developers interested in acquiring land from the Authority. Such proposals may be submitted at any time during this planning process and the consultant must have the capability of integrating specific proposals from developers into a planning process which is not yet fully developed. The Consultant's planning and architectural critique must recognize the public/private process which is involved and requires a high degree of sophistication in tempering design concepts submitted by private developers.

II. SPECIAL WORK CONSIDERATIONS AND BUDGET

1. The DDA is interested in identifying which principals in the consultant's firm will be performing the tasks outlined above. Availability of key personnel for meetings in Fort Lauderdale is a paramount consideration.

2. The level of detail required by the DDA to support recommendations submitted by the consultant cannot be precisely defined. What the Authority is seeking is a balance between exhaustive research on the one hand and hip-shot recommendations on the other.

3. The consultant must be willing to work in close collaboration with the staff and ground rules embodying this collaboration must be mutually agreed upon prior to commencing work activities.

4. The DDA time constraint for delivery by the consultant for the bulk of the work assignments is approximately four months.

5. The agency has not yet set a specific budget figure for the work.

PRELIMINARY REPORT - SOIL AND FOUNDATION
PROPOSED NEW RIVER CENTER
PERSONAL RAPID TRANSIT SYSTEM
FOR FORT LAUDERDALE, FLORIDA

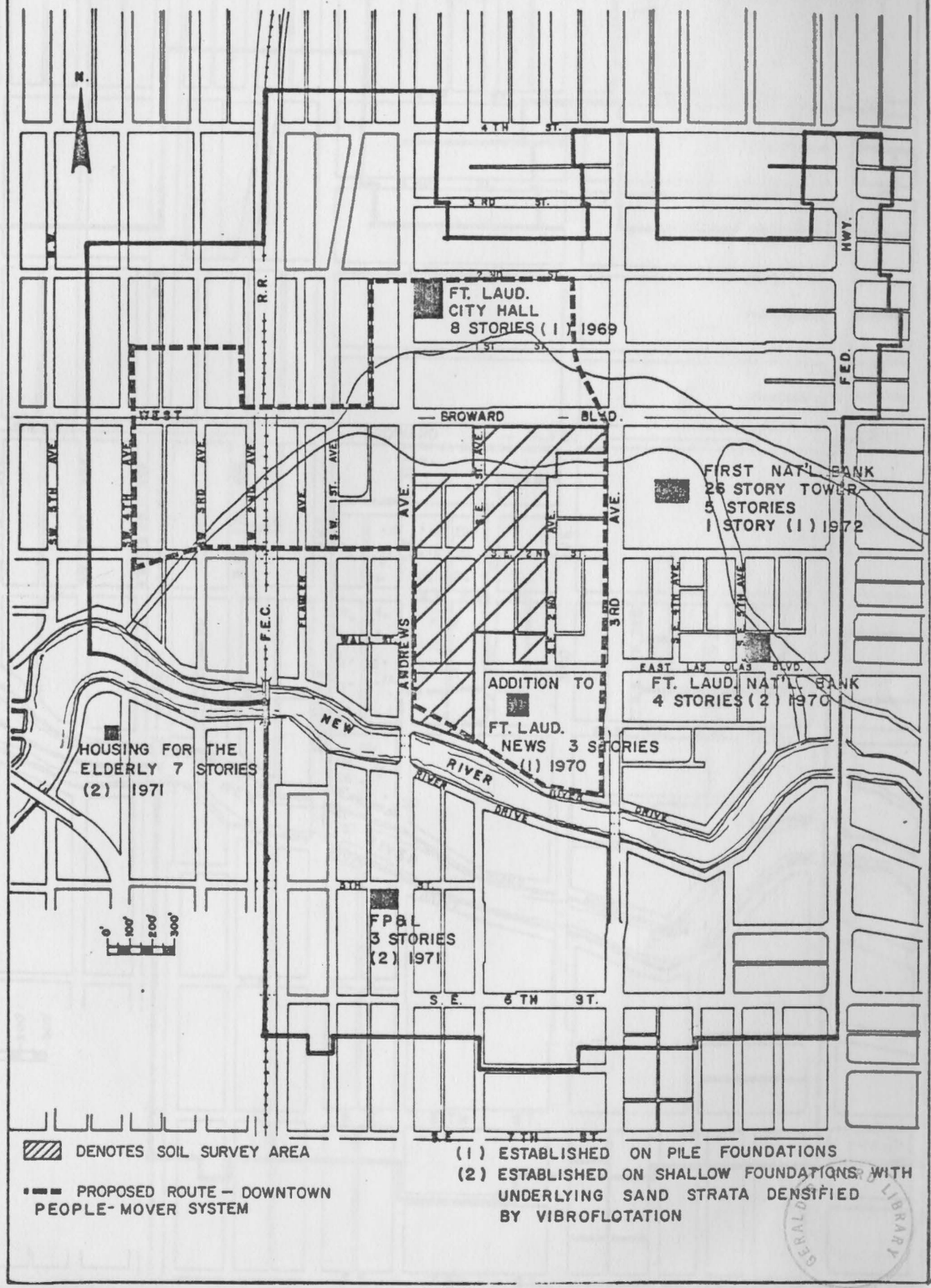
PRELIMINARY REPORT
SOIL AND FOUNDATION

This report will exhibit the general soil conditions prevalent to the area encompassed by the proposed New River Center Personal Rapid Transit System for Downtown Fort Lauderdale.

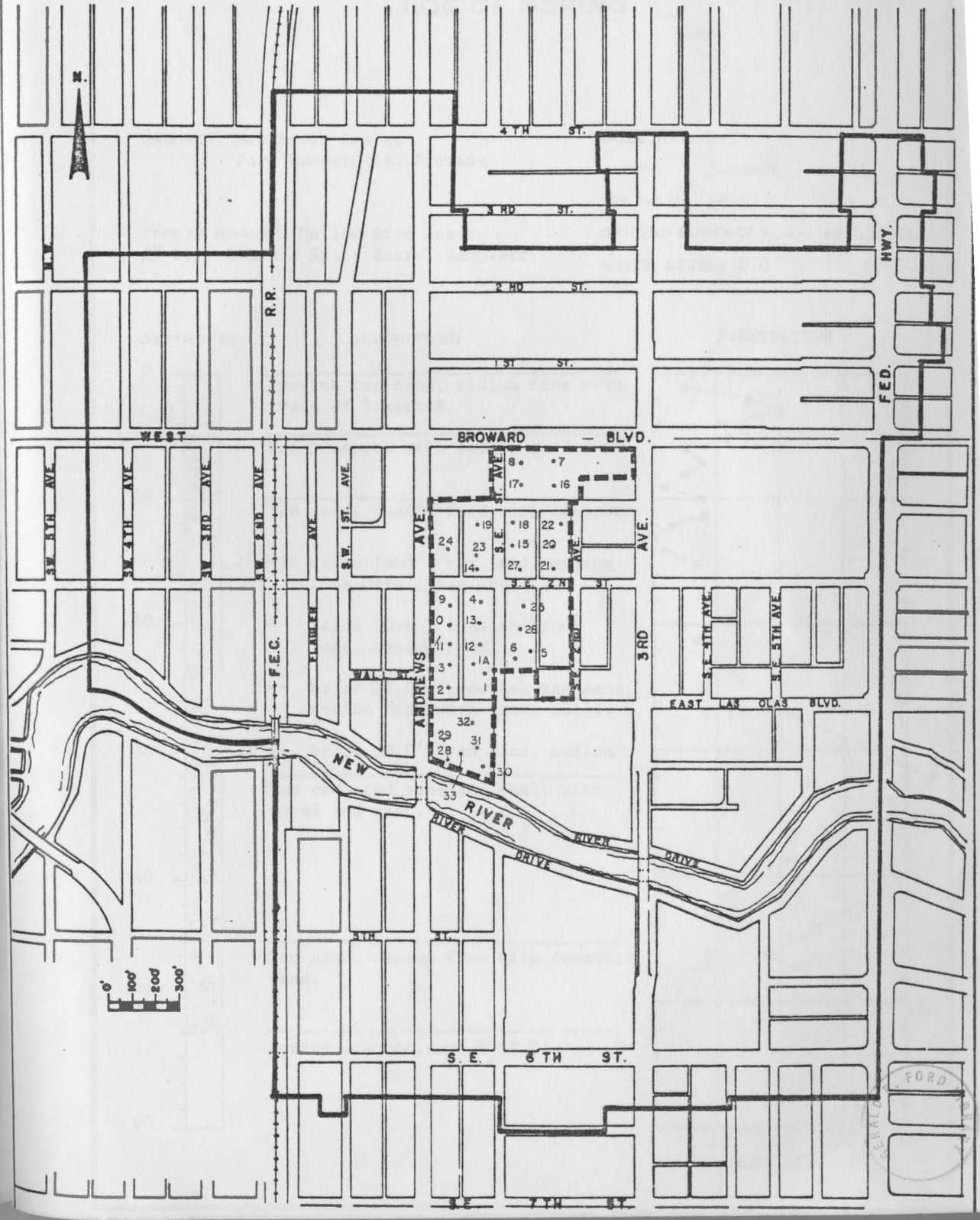
The soil survey information is based on a foundation investigation report prepared for the Downtown Development Authority by Frank G. Bryant and Associates, Inc., Consulting Engineers. The report area lies within the proposed route of the Personal Rapid Transit System, and is shown in blue on Exhibit "A". The boring locations for the report are shown on Exhibit "B", and the boring logs, Exhibit "C" are representative of the soil conditions of the area.

Based on all available soil data and on the fact that the proposed route of the Personal Rapid Transit System passes some of the city's newest office buildings, see Exhibit "A", all of which were built using standard pile or spread footings and encountered no subsequent foundation problems during or after construction, there does not appear to be any soil conditions that would preclude the use of standard pile foundation designs.

FOUNDATION TYPES AND OLD SWAMP LOCATION - DOWNTOWN FT. LAUD.



BORING LOCATION MAP



LOG OF BORING

PROJECT: New River Center
Fort Lauderdale, Florida

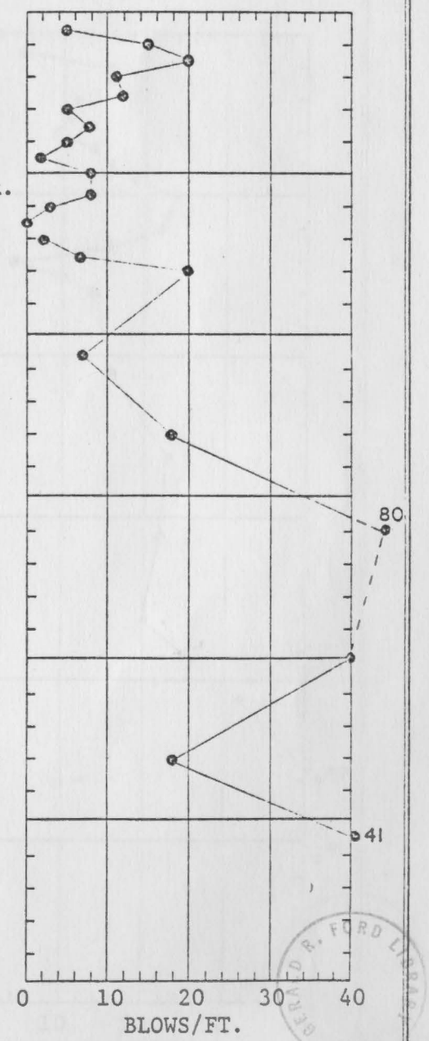
HOLE NO.: B-2
DATE: 3-28-74
JOB NO.: 2831

TYPE OF BORING: Hollow Stem Auger
2" O.D. Solid & Split Barrel Samplers

GROUND SURFACE ELEV.: +3.41 MSL
WATER LEVEL: 0.0

DEPTH (FT.)	DESCRIPTION
0	Grayish tan sand, medium fine with trace of limerock.
	Tan limerock with sand.
10	Tan sand, medium fine with limerock.
	-- below 15.0', tan sand, medium fine with trace shell.
20	-- below 20.0', tannish brown sand, medium fine.
	-- below 25.0', brownish tan sand, medium fine with trace shell.
30	-- below 30.0', tan sand, medium fine.
	Tan cemented sand and shell with coral and sand.
40	
	Tan sand, medium fine with cemented sand.
50	
	Boring discontinued @ 52.0'.
60	

PENETRATION



LOG OF BORING

PROJECT: New River Center
Fort Lauderdale, Florida

HOLE NO.: B-16
DATE: 4-11-74
JOB NO.: 2831

TYPE OF BORING: Hollow Stem Auger
2" O.D. Solid & Split Barrel Samplers

GROUND SURFACE ELEV.: +3.57
WATER LEVEL: +0.75

DEPTH (FT.) | DESCRIPTION | PENETRATION

0 ▽

Tan sand, med. fine with trace organics.
-- below 2.5', to dark brown.

Tan limerock with shell.

10

20

Brown sand, med. fine with trace shell.

-- below 25.0', tan to brown sand, med. fine.

30

-- below 30.0', tan sand, med. fine.

40

Gray cemented sand, shell and sand with trace of marl.

-- below 40.0', tan to gray cemented sand, shell and sand.

50

Boring discontinued @ 52.0'.

60