WILKINSON

Biking to Work in Miami

September 28, 1982

Dear Bill,

Here is the bicycle commuting report we talked about when you were in Miami recently. The locally distributed version is spiral bound and is much easier to read and lies flat.

I look on this as a first draft, and I would like to do an expanded edition with a lot more graphics--in color, if possible. Some of the Miami Herald staff are interested in this. It is too early yet to give you the reaction of local bikers and bike stores, as their copies are only now being distributed.

Next summer, when I have saved my money, I plan to go rambling in Ireland with my family. I enjoyed talking with you, and I look forward to meeting you again.

Yours sincerely,

Ollie

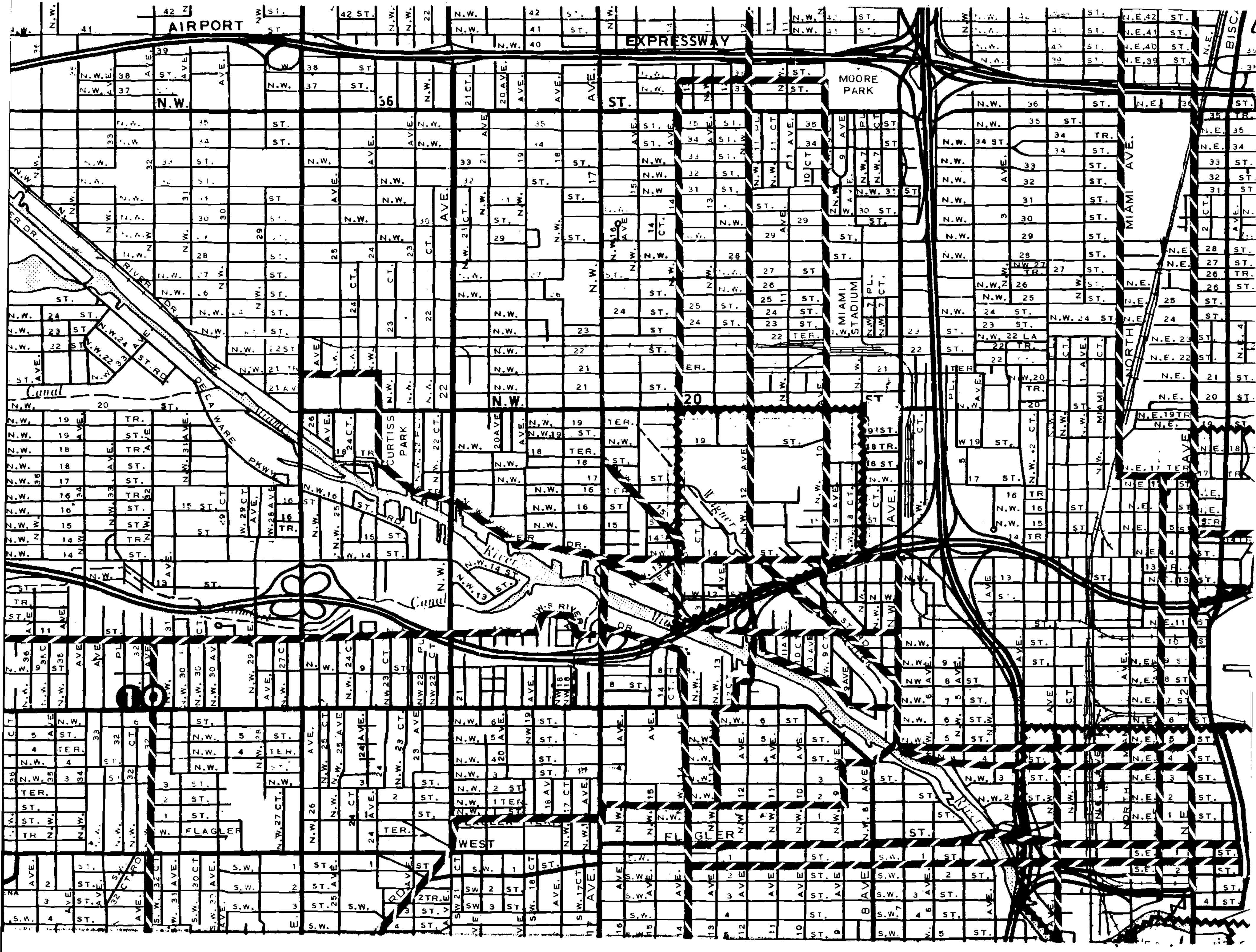
Oliver Kerr

BIKING TO WORK IN MIAMI

The Complete Guide
to Commuting by Bicycle
in the Miami Area

Oliver Kerr, AICP

August 1982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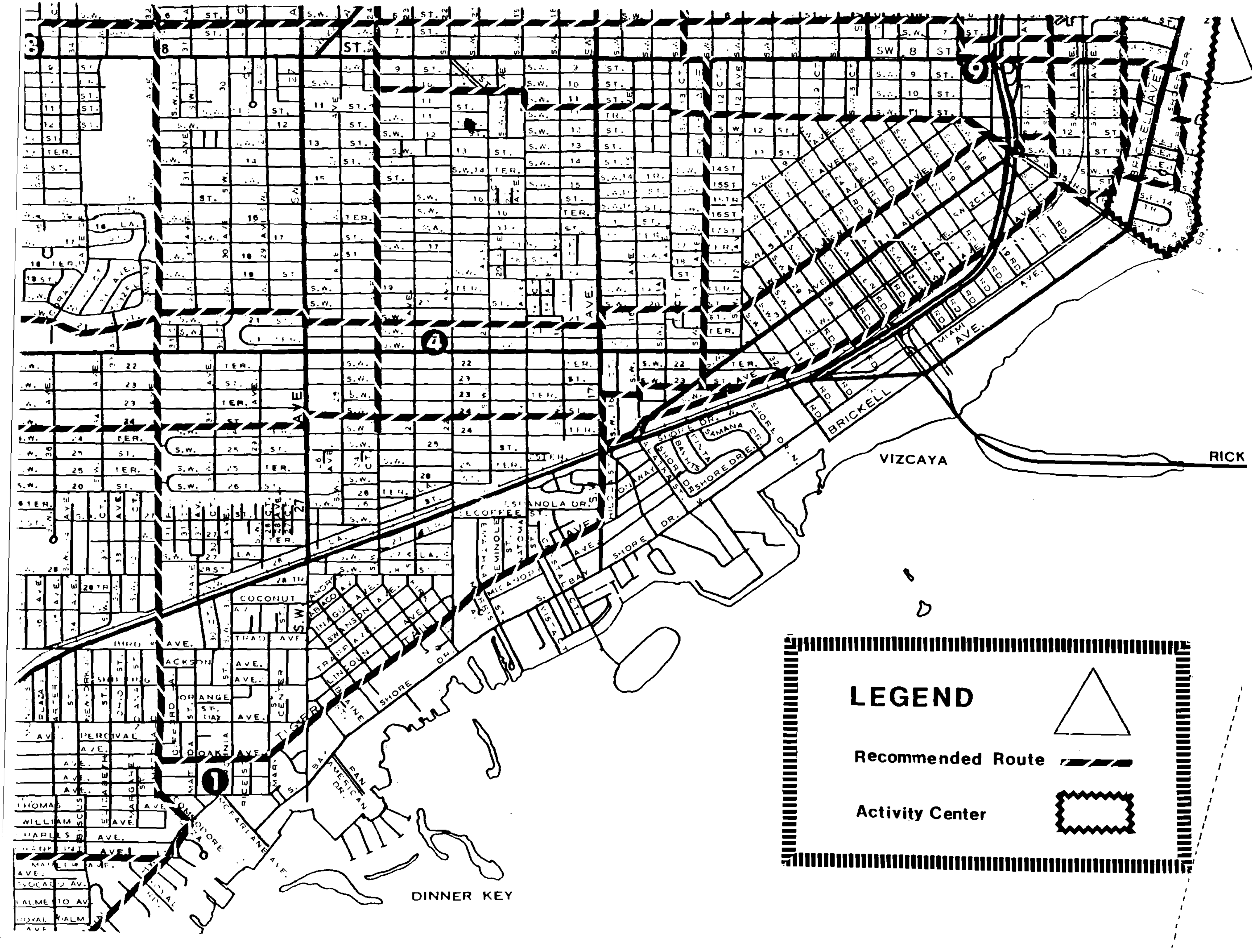
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About the Author

The author of this report is a planner with the Metro-Dade County Planning Department. He is a regular bicycle commuter and has commuted from South Miami to the Brickell Avenue area for many years. He has also commuted from the vicinity of the north campus of Miami-Dade Community College to the Civic Center area. Outside of the Miami area, has had several years of bike commuting experience in the Washington, D.C. area. Why does he commute by bike? "It's the cheapest and easiest way to get from here to there. There are also some benefits to your health."

Grant No. DE-EG44-80R410288

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PREFACE

Section 682 of the National Energy Conservation Policy Act of 1978 (PL95-619) reads as follows:

> The Congress recognizes that bicycles are the most efficient means of transportation, represent a viable commuting alternative to many people, offer mobility at speeds as fast as that of cars in urban areas, provide health benefits through daily exercise, reduce noise and air pollution, are relatively inexpensive, and deserve consideration in a comprehensive national energy plan.

This Guide, funded in part by an Appropriate Technology Grant from the U.S. Department of Energy, is intended to encourage bike commuters in the Miami area. If offers practical advice, information, and encouragement.

How many bicycle commuters are there in the Miami area? Estimates based on recent journey-to-work surveys range from 2,000 to 5,000, less than 1.0 percent of all commuters. With Miami's benign climate (ideal for year-round bike riding), its flat terrain, its wide choice of easy through streets, and its lower-than-average commuting times and distances (21 minutes and 7.5 miles), Miami area bike commuters should be ten times the present number. This Guide seeks to further that goal.

Potential energy savings from increased bicycle commuting are significant. In Florida, transportation accounts for 40 percent of the energy used, a percentage which is significantly higher than the national average. The comparable national figure is only 25 percent. Gasoline fuel supplies 75 percent of this energy and the daily journey to work consumes more than one third of that. If the number of bicycle commuters in Miami doubled, about one million gallons of gasoline could be saved annually. With Metro-Dade's rapid transit system scheduled to roll in 1984 there will be increasing opportunities for commuters to ride to transit stops, with corresponding energy savings.

This Guide has been written by veteran bike commuter in the Miami area. The practical advice and information here is based on a daily eight-mile commute from South Miami to the downtown area.

For distances up to five miles the bicycle offers a reasonable alternative for most commuters. The average commute in the Miami area is approximately seven miles. It does not require expensive equipment or special clothing. It is a year-round proposition. Don't worry about the image you might project. The author is just one of many white-collar workers who has found that brief cases, business suits, and "white-collars" go perfectly well with a ten-speed Raleigh.

Is safety a concern? The author has commuted regularly for the past ten years in different cities and along different routes without mishap. You can do the same. Just follow the pointers and advice offered in this guide.

A reader reply card can be found at the end of the Guide--see Appendix II. It is your opportunity to share your bike commuting experience in the Miami area with your fellow bike commuters out there on the streets and avenues. Please take a few minutes to provide the information requested. Tell us who you are, where you ride, how far you travel, what routes you have selected, and how you feel about bicycling to work in Miami. Feel free to offer critical comments and suggestions about this Guide. All comments will be welcome and will be held in confidence. Your feedback may result in an improved version of this Guide and you can be sure that you will be among the first to receive a complimentary copy of the new Guide if you take the time to comment now.

I. BIKE TO WORK? WHY NOT?

It's a crisp clear morning in November. The sun has just cleared the horizon and is shafting golden light through the gnarled limbs of the live-oak trees on Anastasia Avenue. The green leaves glisten in the morning light fresh with dew drops. Sunlight sparkles on threads of silvery beads--moisture on an overnight spider web. The temperature is a cool 65 degrees. The winds are calm. The sky is a cloudless blue. It's one of those mornings when you can't help but notice the weather as you tip toe out to pick up the morning paper. You look around in the gentle light. It is mornings like this that make you glad to live in South Florida.

Down the street glides a bike rider, moving silently and swiftly through patches of sun and shadow. His shirt sleeves rolled up, his brief case on a rear carrier, he moves easily, seemingly effortlessly, down the tree-lined street. You catch his eye, "Good morning." "Good morning to you. Nice morning for a ride," he responds. And moves on down the street, blending into the sunlight and shadows.

It is a good morning for a bike ride. And there are many such mornings in Miami. Did you ever think of riding your bike to work? Your place of work is only a few miles away. You have a seldom used ten-speed gathering dust in the garage. Why not? It doesn't look too difficult and the old clunker that you usually drive to work is overdue for a tuneup.

You decide to try. That evening you inflate the tires of your ten-speed and dust it off. A quick once-around-the-block assures you that the gears and brakes are working. You hear no unusual rattles. Next day you ride to work. You have carefully planned your route to avoid the major arterials and the dangerous intersections. You have checked with your parking garage and they will let you secure your bike in a little used corner. Overnight, you've become a bike commuter!

Now that you've actually done it, you wonder why you never tried it before. The exercise makes you feel better. You are even working more effectively as a result of the twenty minutes of sustained exercise each morning and evening. You haven't had to gas up the clunker in two whole weeks. And you're beginning to develop an appreciation for the variety of moods that mark mornings in South Florida. There are the mornings with rain on the wind; mornings with enough humidity to remind you of a steamy August afternoon. There are steely gray mornings with a biting north wind when gloves, scarf, and parka are scarcely sufficient, and the wind still brings a tear to your eye! One morning you could have sworn you saw snowflakes. There are the gray, misty mornings when the dew lies heavy on the grass and it seems that your front wheel actually cuts a pathway through heavy moisture-laden air. And there are the golden mornings--mornings that lift your spirits--mornings that massage your senses with the kaleidescope of sights, sounds, and smells of a new day in Miami.

Have you ever thought of riding a bike to work? Do you live within six or seven miles of where you work? Are you reasonably healthy? Can you beg, borrow, buy, or fix-up an old bike? You can? Then, this book is for you. It will give you the answers you need to questions like "What's the best route?" "What happens if I have a puncture?" "What do I do if it starts to rain?" "Don't you get all sweaty?" This book is designed to give you the information and encouragement you need to actually do it--to ride your bike to work--safely, in reasonable comfort and without anxiety.

The following sections deal with things you really need to know. Don't skip them. They're short enough to be read in a few minutes, but they contain vital information for your safety and security on the road. They are followed by a series of maps and descriptions outlining preferred routes to the most important work locations in the metropolitan area. And finally, there is a mail-back card for your questions, comments, suggestions, etc. What more do you need?

II. EQUIPMENT

Equipment - The Bike Itself

Most Miamians own a bike or have access to one. But before heading off into the morning mists, you must be sure that your bike is in good working order. You need to know that it will get you there and back again.

But first, what if you don't own a bike, or your old bike may be beyond repair. You are thinking of buying a new one. What is a good commuting bike? Where should you buy it? How much should you expect to pay? Will a good used bike do?

Let's start with the last question. Yes, you can pick up a good used bike at a garage sale and you can certainly save money this way. Check the classifieds and particularly the garage sales in the Neighbors Section of the Herald. If you are buying a used bike you need to check it over carefully. Look closely at the frame of the bike and make sure that there are no cracks or bends in the frame tubes. Damage to the frame, and particularly to the front forks (the twin tubes that hold the front wheel) makes for hazardous riding. Frames are expensive to repair or replace. If the bike is not rideable, if it is badly rusted, or if it makes loud cracking or rubbing sounds when you ride it, do not buy it.

If you are buying a new bike, I recommend that you go to a regular dealer. A list of the Miami area dealers is to be found on the back page of this report. The large discount and chain stores may be able to offer you somewhat reduced prices, but they cannot offer you the advice, the choice, the last minute adjustments, and the expert service that you can expect from a dealer. So go to a dealer, preferably a dealer whose business is located within a reasonable distance of your home or your place of work. It's worth it!

For a new commuting bike, be prepared to pay about $200 for a new ten-speed. Sure, it's a lot of money, but think of the compensating savings if you become a regular bike commuter. If commuting by bike means that your family does not need a second car--you can save $1,500 to $3,000 a year at 1982 prices. If you ride a bike instead of driving to work, and you travel six miles a day each way, you will save the price of the bike in a few months. If you currently car-pool or take the bus, it will take you a little longer to save the price of your new bike, but in five or six months you will have saved what you paid out.

As to the choice of equipment, no doubt the dealer you select will offer good advice. His business depends on satisfied customers. Listen carefully to the dealer's suggestions and weigh them along with the practical observations offered here.

Three-speed, five-speed, ten-speed, or no speed at all? Yes, you can ride a single-speed bike to work in Miami without difficulty. So you have an old bike with the banana saddle, the balloon tires, and the coaster brake? If it works, if it fits you, if you feel comfortable on it, then ride it. The

streets of Miami are relatively flat, and multi-speed bikes are not necessary. But you will be surprised at the inclines and the declines that you never noticed when you were driving a car. And if you plan to commute regularly for more than a mile or two, I strongly suggest that you invest in a multi-speed bike. "Do I really need ten speeds in Miami?" No, you do not. Ten, 12 or 15 speeds are more than you will need in normal use. You will probably end up using only five gears of your ten-speed in normal use in Miami. But a ten-speed does give you a wider range of gearing than the three- or five-speed bike, and you will find that the ten-speed gear enables you to select the precise gearing for the most efficient peddaling in a variety of conditions. If you decide to buy a ten-speed, you will have a wider choice of equipment--ten-speed bikes have become the "standard" bike stocked by dealers in Miami.

A five-speed bike offers a more limited range of gears, but usually costs a little less than a ten-speed. It may be the best buy for a new rider. Most five- and ten-speed bikes come with 27-inch wheels and the standard 27 x 1-1/4 tire. More expensive wheels with narrower tires are available, but for the commuter, I recommend that you stick with the standard equipment. Then, with a blowout or bad puncture you can more easily pick up a replacement tire or tube and install it yourself on the spot. I use high pressure tires as I find that they carry my weight better, and they cost little more than the standard 27 x 1-1/4 tire.

I currently ride a ten-speed Raleigh Carlton Gran Prix. It is not new. It has a 15-year old frame that has seen a lot of use and still holds together. But equally good and comparably priced equipment is offered by Schwinn, and a number of other American, European, and Japanese makers. Look at the Yellow Pages for the listings by manufacturer, and consult the dealers listed in Appendix I.

Five- and ten-speed bikes are generally of the derailleur type. To change gears you move a lever which derails the chain from one sprocket to another or from one gear cluster to another. These are the bikes that you see everywhere, and you may have noticed that you must keep pedalling in order to change gears. You cannot change gears after coming to a complete stop. Derailleur gears are easy to adjust, but once adjusted by the dealer normally should not require further adjustments. Have your dealer point out the adjusting screws to you when you buy the bike or when you have it repaired. Normally, the gears should give you no problems. However, because they are exposed, they are easily damaged by knocks sustained while parking, or while stowing your bike in a car trunk. Derailleur gears will take a lot of use, but are easily abused. If you have to lay your bike down flat for any reason, be sure that the gears are on top, and that nothing heavy is laid on them.

If you haven't used derailleur gears before, they may take some getting used to. So don't begin commuting until you are quite comfortable with the gear changing technique. If you have to look down to find the gear change lever while on a busy street, you may wake up in a hospital bed. Before commuting, take sufficient practice runs so that you can change the gears without taking

your eyes off the road ahead. And remember, when you come to a stop be sure to change down before stopping, otherwise you will have some difficulty starting up again.

Three-speed gears can be changed while the bike is at a complete stop. Another advantage of the three-speed gear is that it is completely enclosed in the rear hub of the bike, and thus is not as vulnerable as the more exposed derailleurs. Furthermore, the three-speed gear change lever is mounted close to your hand on the handlebars and is easily managed. It simply clicks into the proper position for each gear. Since the gears themselves are not exposed to the rain and dust of South Florida streets, they require less maintenance. A few drops of oil every month or so should suffice.

Three-speed bikes usually come with 26-inch wheels and slightly wider tires--26 x 1-3/8. These wheels and tires offer firm support and good road grip and will absorb the occasional unavoidable jolt from a rock, hole, or fallen tree limb. Three-speed bikes are usually less expensive than five-or ten-speed machines, and cost about $130. They offer an attractive alternative to the prospective bike commuter.

For short distance commuting--less than five miles each way--any of these bikes will serve you well. For distances of longer than five miles, I suggest that you consider the ten-speed, with 27-inch wheel, as it will offer you the greatest efficiency. The longer the distance you commute, the more important is the efficiency of the machine that you ride.

For commuters I recommend upright--not racing style--handlebars, whether it be a three- or ten-speed bike. The upright handlebars are usually found on three-speed bikes, but are also available on five-and ten-speed machines If you need to change racing for upright handlebars, note that you will also need to change the brake levers. There are two reasons why upright handlebars are preferable. First, the brake levers are always close to your hands (not always the case on the dropped handlebars). Secondly, the upright handlebars encourage a more upright riding position so that you can look ahead and around you without having to arch your neck. The upright riding position also gives you a little more height, and you can more easily see over cars and other vehicles on the road.

You do need to constantly look out ahead of you when commuting by bike. Never allow your head to drop or your gaze to become fixed on the road just beyond your front wheel, which easily happens when you are tired or pushing into a headwind. Occasionally you do have to focus on the pavement immediately ahead to avoid a pothole or an obstruction, but this can be done in a second while keeping the road ahead in your peripheral vision. Average speeds of 12 to 15 miles an hour might not sound like much until you run into the back of a vehicle that has suddenly come to a stop in front of you. Remember you must look out ahead of you. You are considerably more vulnerable than the guy in the Cadillac.

Equipment - Useful Accessories

Regardless of the type of bike you select, you will need some special equipment for commuting. In Miami, with its rain showers, fenders are a must. They protect you and your clothing from the spatters and splashes of wet streets and standing puddles. I do not recommend riding to work in the rain, but rainy days are not as frequent as you might think. In the winter, weeks and even months can go by without a single shower. However, sooner or later you will encounter a wet street. A pair of fenders (usually plastic) add little to the weight of the bike and are a must if you are to arrive at work in a reasonably presentable condition.

You will also need a saddle bag and a carrier or a pannier set to carry your brief case, your lunch bag, parka, lock and chain, and basic tool kit. Bags and carriers mounted on the handlebars or the front wheel are not as safe as saddle bags and rear wheel carriers, or panniers.

The basic tool kit should include the following:

* a tube patch kit, consisting of rubber patches, rubber solution, and a piece of sand paper for roughing up the surface of the tube;

* two tire irons;

* a small adjustable wrench; and

* a small screwdriver, preferably one with an interchangeable flat and Phillips head.

These items are best kept wrapped in a piece of cloth or old towel to keep them from rattling around in your saddle bag. The cloth is useful for wiping your hands if you do have to perform some emergency repairs (more about emergency repairs later).

A bicycle pump is also required and can usually be carried on the frame of the bike. Unless you have a secure parking space, the pump should not be left on the bicycle unattended. I use an inexpensive small bicycle pump which just fits in the bottom of my brief case, and thus I never have to worry about bringing it with me when I park. When riding on weekends without a briefcase, I simply attach it to the frame.

Again, while I do not recommend riding in the rain, at night, or at other times of reduced visibility, your bike must be equipped with as many reflectors as you can carry. At a minimum you should have a large red reflector on the rear fender or carrier. Your pedals should also have amber reflector strips. Plastic reflectors fitted into the spokes in your wheels are also useful. Riding home after work on a winter evening, darkness comes quickly. In the fading light the shadowy stretches on some shaded streets become even darker. In these situations, reflectors may save your life. If you do find yourself riding at dusk for part of the year, then invest in a good tail-light and use it. A headlight is also useful in these

circumstances but is not as critical, particularly if the roads you travel on are lighted. Visibility for the commuting cyclist is of paramount importance. You and your bike should be easily visible to the driver of an autombile in poor lighting.

You may have seen children riding to school with orange safety flags which increase the visibility of these young riders. I have not seen many commuting cyclists use these. They are somewhat unwieldy and do not add much to the visibility of the adult rider in daylight. However, they are certainly worth considering.

A rear-view mirror is another important piece of safety equipment for the commuting cyclist. These mirrors may be attached to the handlebars, but they can also be attached to the rider's wrist, eyeglasses, or helmet. They are helpful in traffic as they enable you to see behind you without turning your head. Thus, you are able to keep your gaze on the road ahead. Handlebar mounted mirrors tend to vibrate when the bike is in motion and they are easily knocked out of position. Mirrors that mount on the rider's helmet or eyeglasses are more effective, but should be carefully adjusted.

Equipment - Clothing

More and more you will see serious cyclists wearing a helmet, usually white or a bright color, and frequently with reflective strips attached. Helmets are expensive (as much as $40), but how much more expensive is a broken head? All serious riders should wear a helmet. It protects your head in a collision or a fall. It makes you more visible. It marks you as a serious cyclist whom the motorist can expect to ride in a responsible manner. It is just good common sense. Sure, some of them may look funny. Sure, it is another item that you have to carry with you when you park. But the benefits far outweigh the inconveniences.

You need no other special clothing for commuting by bike in Miami. Most mornings find me riding to work in the clothes that I will work in that day. I tuck the bottoms of my trousers into my socks so that they do not snag in the chain wheel or get greasy from contact with the chain guard.

I normally wear light colored shirts to increase my visibility, especially in winter when it gets dark on my way home. I have found that dark colored trousers will not show saddle stains or grease marks, but feel free to wear what you want. In winter there will be mornings when you will need to wear gloves, scarf, or parka. On humid, summer mornings you will want to carry a shirt or blouse with you in your saddle bag or brief case, so that you will have a fresh clothing to change into when you get to work. Many office buildings have showers which you may want to use in the summertime. However, you will find that summer mornings are more humid than hot, and if you ride easily you will not perspire unduly. For riding home in the summer, I pack a pair of shorts, because summer afternoons are hot and muggy and you, like me, will perspire freely.

There are bike commuters who wear bright reflectorized vests, belts, and patches which increase their visibility day and night. These are useful additions to the cyclist's wardrobe. Special cycling shoes, pants, and other special items are not really needed and can be very expensive.

Last, but not least, of the clothing items is a poncho or rain coat. Rain gear comes in various styles, colors, qualities, and prices. I recommend that you buy the least expensive poncho that you can find. You can sometimes find a flourescent orange/red poncho at discount stores for only a few dollars. This will provide you with shelter from the rain while permitting unrestricted movement. You will find that the poncho is not as hot as the rain coat or the rain suit, and it is quickly put on when the rains suddenly begin to fall. It folds up into an envelope the size of a paperback book, and is easily carried in your briefcase or saddle bag. In normal use it should last for several years. Again, a bright colored poncho gives you added visibility in the rain. When riding with the poncho be careful that the hood does not obstruct your vision. If you find that your peripheral vision is restricted be extra careful when executing turns. If you can't see behind you when making a left hand turn, dismount and walk your bike across the street.

III. RIDING TECHNIQUES

So much for equipment and clothes. Now here are a few pointers on safe riding techniques. First and foremost, the bike commuter must be alert. Do not daydream. Do not window-shop. Concentrate on what you are doing. Remember that there are other vehicles on the road travelling faster than you and requiring more room than you do.

Ride responsibly and you will earn the respect and the courtesy of most drivers. Always ride with the traffic, and as close to the right side of the road as possible. Try to maintain an even pace and ride in a straight line so that drivers overtaking you can predict what you are going to do. Practice keeping within a few inches of the white line that marks the side of many streets, but be on the lookout for sewer grates with the slots parallel to your path of travel. These can trap your front wheel and throw you off. Also, be on the lookout for rocks, stones, potholes, fallen tree limbs, and other debris which may jolt you off your bike. While continuing to see the road ahead, try to spot these hazards when they are still about 15 to 20 feet away so that you can take appropriate evasive action without having to make a sudden swerve or stop. Look out for patches of sand, loose pebbles, and wet leaves which frequently accumulate at corners and in low spots on rainy and windy days. These patches should be avoided, if possible, or negotiated slowly and carefully as they can be very slippery and cause your bike to skid out from under you in the process of turning.

Obey all traffic signals. Stop at stop signs and red lights. This is important for your own safety. It also demonstrates to other users of the road that bicyclists are responsible users also. Give clear hand signals in good time if you are about to turn. Before crossing a lane of traffic (for example, to make a left-hand turn), make sure that there is no traffic behind you. Glance over your shoulder or check your rearview mirror to ensure that you can safely make the maneuver before you begin to make it. Make sure that you maintain a straight course while giving hand signals or while glancing over your shoulder. Inexperienced riders have a tendency to weave or wobble at these times. Practice maintaining a straight course while giving a left turn signal and looking over your shoulder. With practice you can do it.

Do not ride with both hands off the handle bars. This can be fatal. It is a foolish demonstration of irresponsibility. Do not carry a passenger on your bike, unless you are riding a tandem--a bicycle built for two. Do not carry packages under your arm while riding. That will leave you with only one hand to steer and brake the bike and to give hand signals. Packages should be secured on the carrier or in the saddle pags or panniers. Do not suspend packages from the handlebars. They will impede your ability to steer, and may tangle in the spokes of your front wheel. Do not wear radio phones that prevent you from hearing the traffic around you. You need to be able to hear the noise of an approaching automobile or a truck behind you. For this reason I suggest that you do not carry a radio or a tape player on the bike.

Most of these do's and don'ts are simple common sense, but almost every week I see bike riders who violate these simple rules at great risk to themelves. Their carelessness frequently serves to anger and annoy motorists and fuels the negative feelings some motorists have about bicycle commuters. Please ride responsibly for your own sake, for my sake, and for the sake of all your fellow bike commuters.

Follow these simple rules and you will ride without fear or anxiety. There's no need to be tense. Riding should be a relaxing experience. Do not grip the handlebars tightly. Hold them lightly but firmly. Change your hand position on the handlebars from time to time so that your wrists do not become cramped or tired. Look around you, but always, always, be alert to the road ahead.

If your ride is not a rewarding experience you will not continue commuting by bike. Select an easy pace well within your range and try to establish a rhythm in your riding. Your commute to work is not the Great Coconut Grove Bike Race. Give yourself sufficient time so that you can enjoy your ride at your own most comfortable pace. When the wind is in your face, and it will be from time to time, don't feel compelled to struggle to maintain your normal speed. Relax, shift down in the gears, and push ahead in your normal rhythm or "cadence," as bikers call it.

When turning a sharp corner or when riding close to the curb, be sure that your pedal does not come in contact with the road or curb. If you are leaning into a curve, make sure that the inside pedal is in the up position. If you are close to a curb make sure that the pedal nearest the curb does not brush against it. If there is a pothole or a bump in the road that you can't avoid, you can minimize the shock on the bike and yourself by rising slightly off the saddle--transferring all of your weight to the pedals. Thus, your legs will take most of the shock.

Watch out for your braking ability in wet weather or after riding through a puddle. Wet rims and brakeblocks do not work as well as when they are dry. There are special ribbed rims and brake blocks that perform fairly well in wet weather and you might want to consider them when purchasing a new bike or replacing existing components. If your wheels are wet, allow yourself more time in which to stop. When riding down a street with parked vehicles, be on the alert for a car door opening in your path. Frequently you can see if the car is occupied before you pass it and often you can anticipate a door opening.

My experience on Dade County roads and streets confirms that it is possible to ride safely and comfortably in traffic. Occasionally, a car or truck will pass you too close or too fast for comfort. Do not let these occasional incidents disturb you. These careless or poorly educated drivers are the exceptions. Most motorists will treat you with the courtesy that you expect.

Here are a few more personal observations. On most streets with signalized intersections, you can expect overtaking traffic to pass you in groups. When one car passes you, look for others immediately behind. Maintain a steady

straight path on the road so that these drivers can see your direction and speed and make appropriate allowances when passing. Be particularly careful on narrow two-lane streets, e.g., Blue Road in Coral Gables. Oncoming traffic on these streets may force overtaking traffic attempting to pass you to slowdown and remain behind you since they cannot safely squeeze by in the narrow lanes. In these circumstances do not ride off the road or teeter on the very edge of the pavement. Maintain your usual path comfortably close to the white line that marks the edge of these streets. Some riders respond to these situations by riding square in the middle of the lane. This is intended to prevent motorists from squeezing by dangerously. I do not recommend this tactic. Many motorists would regard this as an arrogant assertion of your right to the road.

When traffic is overtaking you be on the alert for the car hauling a boat trailer--a common occurrence on the streets of Miami. When the car is abreast of you the trailer will be just behind you. Again, if you maintain a steady and straight path at the right side of the road you should have no difficulty.

Buses, because of their bulk and noise, frequently pose a special problem for the bike commuter. My experience is that bus drivers are alert and courteous drivers who will only pass you when it is safe to do so. They will generally allow ample room between you and the side of the bus. Buses pose yet another problem. At rush hours on commuter routes you will find them stopping frequently to pick up and discharge passengers. Frequently you will find that you and the bus will be travelling about the same speed for long stretches. When a bus pulls over to the side of the street ahead of you, under no circumstances pass it on the inside--even if there is plenty of pavement there. You will be a hazard to yourself and the alighting passengers and you will drive the bus driver crazy. If passing the bus might be unsafe, stop and wait for the bus to move on. If you decide to pass the bus, check behind you to ensure that you yourelf are not being overtaken by another vehicle and that it is safe for you to pass the stopped bus. Again, clearly signal your intention by indicating a left turn in good time. Then proceed to pass the bus leaving ample space between you and the bus so that the driver can easily see you in his rear view mirror. If, by chance, the bus should begin to move while you are passing it and you feel that you will not be able to complete your maneuver, simply slow down, extend your right hand to signal a return to the right hand lane and drop back into that lane behind the bus as it pulls ahead.

Other hazards of the road that you can expect to encounter in Miami include joggers, other cyclists in your path, and dogs. With joggers and other cyclists that you are overtaking, be sure to signal your intention to pass by extending your left arm so that motorists behind you are aware of your intent. Then alert the jogger or cyclist by bell or horn (if you have one) and by calling out "Passing on your left." It is good practice to let them know you are about to pass before you do. Allow plenty of room between you.

Occasionally you will encounter an uncontrolled dog who rushes out from the sidewalk barking like mad. In most cases you can simply accelerate away from

the animal. When you can't, a loud shout, "Bad dog! Go away!" will frequently suffice to discourage the mutt. If the dog persists and you realize that you might get bitten or (more likely) thrown off the bike, it is better to dismount, keeping your bike between yourself and the dog if possible. Dogs soon lose interest in these situations.

A more detailed presentation of driver training with lots of examples, rules of the road, and traffic tips is to be found in The Complete Book of Bicycle Commuting, by John S. Allen, published by Rodale Press, Emmaus, Pa., the publishers of Bicycling magazine. This book has a host of useful hints for the beginning commuter and is a worthwhile investment for all bicycle commuters.

IV. WHAT DO I DO IF . . . ?

This section addresses some of the more commonly asked questions about commuting by bike in the Miami area.

1. "What do I do if it is pouring cats and dogs when I'm about to leave?"
If you are leaving for work in the morning and it seems that the rainfall is more than just a passing shower, leave your bike at home. Riding in the rain is uncomfortable and hazardous. You hardened cycling commuters will deny this, I'm sure, and you will insist on riding to work, rain or shine. Good luck! The rest of you, like me, will take the bus, car pool, or haul out the old jalopy. If you are coming home in the evening and it is raining, you might want to arrange a ride with a co-worker if that is possible. Otherwise, take the bus and phone your spouse to pick you up at the bus stop, or wait for the rain to subside. As a last resort you can ride in the rain, with your flourescent parka and all lights on, confident that when you do get home you will be able to shed your wet clothes and relax in a hot shower or tub. When riding in the rain do exercise the utmost caution. Remember that your bike brakes less effectively in the rain. Remember that motorists' vision will be somewhat obscured in rain-darkened streets. Take no chances. Be alert and ride in a steady and predictable manner. Your life may depend on it. In general, it is best not to ride in the rain, after dark, and at other times when visibility is decreased. The safety of a cyclist depends on being seen.

2. "What do I do if I have a puncture?"
If it is a very slow puncture you may be able to inflate your tube several times and that will be sufficient to carry you to your destination. Otherwise, you have a choice of fixing it yourself, or wheeling your bike to the nearest bike shop or garage where they may be willing to fix it while you wait. A simple puncture is relatively easy to fix and the job can be completed in less than five minutes with experience. However, if it is a blowout with a large tear, a previous patch that is not adhering properly, or several scattered puncture holes, you had best head for the nearest bicycle store or repair shop (see list of bicycle shops in Appendix I).

"How do I fix a puncture?"
First, let's assume that you have your little puncture repair outfit with you (complete with tire levers) and a pump to inflate the tube. The steps are as follows:

1. Turn the bike upside down by the side of the road, well out of the path of traffic. It should stand on the saddle and the ends of the handlebars. Starting at the valve stem, slowly turn the tire listening for the hiss of escaping air and watching for protruding nails, thorns, pieces of glass, or other sharp material. If this initial examination should determine the location of the puncture then you can mark the spot and easily locate the actual hole when you remove the tube.

2. Deflate the tube and remove the tire from the rim as follows: center the valve stem at the bottom. Starting at the top, directly opposite the valve stem, insert the first tire lever between the tire and the rim, levering the tire off the rim. The tire lever can be secured if necessary by fastening the lower end to a spoke using the notch provided in the lever. Then, insert the second tire lever two to four inches to the right of the first lever and lever a little more of the tire off the rim. Carefully remove the lever and insert it a few inches further to the right to lever off the next section of tire. After six to ten inches of tire are removed from the rim in this fasion, you will find it easy to remove the rest of the tire by hand.

3. Pull out the tube, being careful not to snag it in the brake blocks, and remove the valve stem last. With the inner tube clear of the tire, inflate it partially, if necessary, to determine the precise location of the puncture. If your examination of the tire has already indicated the approximate location, you should find the puncture easily. Otherwise, carefully examine the tube, inch by inch, starting with the valve stem. When doing this hold the tube close to your face so that you can more easily hear the hiss of escaping air (you may have to inflate the tube still more), or feel the little jet of air on your face or hands. If you cannot precisely locate the puncture, moistening the tube with a little saliva will help pinpoint the hole. Or you can moisten your lips and hold the tube close to your mouth.

4. Having found the hole, first make sure that it is the only hole and that there are not others nearby or in other parts of the tube.

5. Clean and dry the areas arond the puncture by using a piece of coarse cloth, brown paper, or sandpaper. It is important that the area where the rubber patch is to be placed be clean, dry, and free from dirt and grease. If possible, the slick surface and any seams in the tube should be sanded smooth.

6. Select a rubber patch of appropriate size from your repair kit. Apply a little dab of the rubber solution and spread it around quickly with your finger in the area where the patch is to be placed. WAIT several minutes for the thin layer of rubber solution to dry. This is the most important step if the patch is to properly adhere to the tube.

7. Then, when the solution is tacky or dry, tear the vinyl backing off the patch and apply the rubber patch squarely over the hole, pressing it firmly to the tube.

8. If necessary, pump some more air into the tube to ensure that the patch is working properly--no leaks around the edges. Then check the inside of the tire in the area of the puncture for the material that caused the puncture in the first place. Sometimes you will

find a piece of glass or a thorn protruding through the tire in a way that would cause a second puncture if the tube were to be reinflated. Remove the cause of the trouble. The tire levers may prove helpful here.

9. Partially deflate the tube, leaving only enough air in it so that it just retains its tubular form. First insert the valve stem in the valve hole in the rim, and then continue to insert the tube under the tire, using your hands only--no tire levers. When the tube is fully inserted under the tire, begin the replacement of the tire starting at the valve stem. Make sure that the valve stem is only half way into the hole in the rim, and that the tire fits easily on the rim around the stem. Then, working away from the stem in each direction, pull the tire on the rim, ensuring that the tube is safely inside and not caught between the tire and rim.

10. When you reach the last six to eight inches of tire you will encounter some difficulty in pulling the tire on by hand. Do not use tire irons at this point. Simply release the remaining air from the tube holding the valve open and squeezing the tire and tube if necessary. Then, with the tube completely deflated, you will find it fairly easy to pull the tire onto the rim by hand--inch by inch.

11. Finally, reinflate the tire, and pack away your tools and puncture repair kit. With a little experience this procedure should take no longer than five minutes, and will result in a repair that should last the life of the tube.

3. "What do I do if I have a mechanical breakdown that I can't repair?"
If the breakdown happens within walking distance of a bicycle shop, then simply wheel your bike there. If you are not close to a shop or it is not yet open and you are on your way to work, secure your bike in some prominent location, e.g., on a major arterial and head for the nearest bus stop. You may persuade a colleague at lunch time to help you pick up the bike and deliver it to the nearest repair shop where you can probably pick it up on your way home--again with a ride from your friendly colleague. If the breakdown occurs on your way home from work you may also be able to call on a friend for a ride home.

Serious breakdowns generally occur for one of two reasons: (1) an accident, such as running into a pothole and damaging a wheel, or (2) lack of routine maintenance on your bike. Some accidents are simply unavoidable. Most, however, can be avoided by concentrating on what you are doing, by keeping your eyes and ears open, and by riding in a steady, confident, and predictable manner. Be alert! Then you will be able to see and avoid 95 percent of the potholes, fallen tree limbs, wet leaves, and rocks that lie in wait for the unsuspecting bicyclist.

Breakdowns arising from the lack of routine maintenance are also avoidable. Take care of your trusty old bike. A few minutes a week will ensure you

years of trouble-free riding. Maintain the proper air pressure in the tires. Remember that high pressure bicycle tires lose air more quickly than automobile tires. Listen for rattles and noises that tell you when something is coming loose. A few drops of oil once a month should keep all bearings and parts running smoothly. Occasionally check your tires for cuts, bulges, and general wear. You will find that the rear tire generally wears out much faster than the front. Do your brakes work well? If you have to pull the levers way up to the handlebars to obtain adequate braking, then the brakes need adjusting. Look for the adjusting nuts and tighten the brake cable. At the same time check the brake blocks. If they are badly worn replace them, being sure to replace the brake shoes exactly as you found them. If they are not replaced correctly, the blocks will pop out of the shoes when you apply the brakes. Occasionally, drive-train parts, such as the pedals, the bottom bracket, or the chain may need adjustment or replacement. There are repair books with the necessary instructions, but you will need some special tools. Having these items checked and repaired in a bike shop is the practical choice of most riders. While the bike is in the shop, avail of the opportunity to have an overall inspection by the trained mechanic.

V. HOW DO I GET THERE?

Finally, this section tells you how to get there from here. You will find advice on how to reach the major employment centers accessible by bike in Dade County. Maps outlining alternative routes are inside the front and back covers of this report. If you live or work in a part of the County not covered by these maps, then I suggest that you use an up-to-date gas company map as a guide. The bike route map available from the Metro-Dade Park and Recreation Department is also useful but is really aimed at the recreational rather than the commuter cyclist. Maps in book form (as opposed to the more common fold-out sheet) are available in most book stores. You may find these easier to use on the road.

But for the lucky bicycle commuters who live in downtown area or in southwest Miami, here is all that you need to know about how to get from home to work by bike.

This Guide focuses on the U.S. 1 corridor (and adjacent areas) between downtown and Dadeland because this is the most heavily travelled commuter corridor in the Miami area. It is also the corridor that will first benefit from the new Metrorail transit system currently under construction. It is the corridor used most heavily by white collar workers on the 8 to 5, Monday through Friday stint. The Southwest residential areas are blessed with easy through streets, plenty of tree canopy, and a wide variety of interesting neighborhoods.

Between Dadeland and downtown lie several of Miami's major white-collar employment centers, the South Miami business district, the University of Miami, the Coral Gables business district, and the Brickell Avenue office district. Just north of downtown is the Omni-Plaza Venetia area, and to the north and west is the hospital-Civic Center complex. All of these areas are directly served or within close proximity of the rapid transit system. The downtown, Civic Center, and Omni areas provide jobs for close to 120,000 white-collar workers, or one of every seven workers in Dade County. Within reach of the U.S. 1 corridor are the work places of yet another 50,000 workers, many of whom travel relatively short distances (less than 5 miles) to work each day. In sum, about one-third of Miami's labor force lives or works in the Central and Southwest area. This is the area where greatest employment growth is projected. This is the area that offers the best commuting opportunity for bikers.

One advantage of bicycle commuting in this area is the almost complete absence of barriers. There are only two of any significance: the Miami river, which loops the downtown area on the south and west; and two big golf courses in the Gables, the Biltmore and the Riviera Country Club courses.

The Miami River constitutes a significant barrier to persons travelling into the downtown area or the Civic Center from the south or west. There are five bridges across the river--all of them busy, iron-grid draw-bridges which can be hazardous when wet. This barrier is treated in some detail in the discussion of access to both the Civic Center and the downtown area.

The golf courses are separated only by Bird Road--a heavily travelled east-west artery that is not recommended for bicycle commuters, even in this tree-shaded stretch. The two golf courses constitute about a mile-wide barrier to east-west travel, stretching all the way from 28 Street to 48 Street, just a few blocks east of Red Road (SW 57 Avenue). The commuter will have to decide whether to circumvent this barrier on the north--Anastasia Avenue is a good choice--or on the south, where Blue Road (narrow and fairly busy) or Campo Sano (wider, though less direct) offer reasonable alternatives.

There are also some minor barriers formed by canals (the Coral Gables Waterway and Snapper Creek canals run southeasterly into the Bay), but these are not major obstacles and are crossed every half mile or so by streets suitable for bike commuting.

This section is organized as follows. The downtown area is discussed first since it is the single major destination of commuters in the Miami area. Then follows a discussion of the Omni-Plaza Venetia and the Civic Center areas which lie less than one mile from downtown. The Brickell Avenue area is a rapidly growing office area just south of downtown and is really an extension of the central business district. It is an emerging employment center and is separated from downtown only by the river. The preferred routes for bike commuters to these areas are depicted on Map 1 inside the front cover.

Map 2 is inside the back cover and covers the areas listed below. The Dadeland area is the southern terminus of the rapid transit system and a major shopping center and is treated first. Immediately northeast of Dadeland is the South Miami-University of Miami area. The South Miami business district is a busy commercial and office area with two hospitals just northeast of Dadeland. The University of Miami is still further north and east, and is a major destination for students, faculty, and other workers. The Coral Gables business district lies approximately two miles north and east of the University of Miami and is a growing commercial, office, and residential area. These areas and the recommended routes are presented in Map 2, inside the back cover.

A glance at the maps will show that all these areas are essentially linked by U.S. 1. Do not attempt to commute by bike on U.S. 1. It is a busy, congested, high-speed highway that is not suitable for cyclists. In the downtown area where speeds are reduced and the road narrows to four lanes you may have no alternative if your path takes you across the Miami River. The sidewalk in this area has recently been enlarged to become a part of the County's main north/south bike route, but you will find more pedestrians than cyclists on the sidewalk in this area.

Three other roads in the general southwest area that should be avoided are Bird Road (SW 40 Street) west of U.S. 1, Douglas Road (SW 37 Avenue), and LeJeune Road (SW 42 Avenue) north of U.S. 1. These are busy, highspeed, four-lane arterials with little room for cyclists. There are alternative routes nearby which offer easy through streets with much less traffic. Ponce de Leon Boulevard offers an alternative to LeJeune and Douglas, and Blue Road offers an alternative to Bird Road. The other major arterials in the

southwest and central areas are not among the recommended routes, but are rideable if you are an experienced and competent bike commuter. These include SW 27 Avenue, SW 57 Avenue, NW 20 Street, NW 7 Street, Flagler Street, SW 7 and 8 Street, Coral Way, Sunset Drive (SW 72 Street), and Kendall Drive east of U.S. 1. Kendall Drive west of the Palmetto Expressway has a wide sidewalk and access roads that can be safely used by cyclists

The Downtown Area

The Downtown Area is Miami's central business district--a highly concentrated area of office and retail and service activities. It is a rapidly growing area with much heavy construction underway, which will add another 10,000 jobs to the area by 1985. The area is bounded by the Miami River on the south and west, Biscayne Bay on the east, and NE Sixth Street on the north. There is limited street access from the west, and the south across the Miami River. Biscayne Bay effectively limits access from the east. With the demolition of the Miami Avenue bridge in 1981, there are now only two bridges linking downtown with the area to the south--the Brickell Avenue bridge (US-1) and the SW Second Avenue bridge. The Brickell bridge is a four-lane bridge and is not recommended for bicycle commuters. The sidewalk has been designated as part of the County's Bike Route 1, but this bicycle path is primarily intended for recreational uses. Thus, the only recommended access to the downtown area from the south is via the Second Avenue bridge. This is a two-lane bridge with adequate room for bicycles going north or south. The iron gridwork of the drawbridge can be slippery when wet, and cyclists should use caution during and after rain showers. The bridge has sidewalks for pedestrian traffic, but bicycles should not be ridden on this sidewalk. On the commuter guide map, all bicycle traffic from the south and southwest is routed across the Second Avenue bridge.

Once across the bridge, access to any building in the Downtown area should be relatively easy. The one-way streets that characterize downtown are usually congested and slow moving. If your destination is north of Flagler Street it is suggested that you proceed as far north on Second Avenue as possible before turning east to your destination. If your destination is south of Flagler but east of SE Second Avenue, your best route is to proceed east on Southeast First Street which is one-way eastbound. In the downtown area be on the alert for buses stopping and starting, trucks loading and unloading, and right- or left-turn only lanes at several intersections. All streets are busy during the day, and particularly at the morning and afternoon rush hours, but traffic speeds are relatively low.

Coming from the west, you have a choice of two crossings over the river--the NW Fifth Street bridge or the Flagler Street bridge. The latter provides the most direct access to the downtown area and is really two bridges--a one-way pair. The northern span--which is actually Flagler Street--is one-way westbound. The southern span--which is actually SW First Street--is one-way eastbound, and continues as a one-way street through to Biscayne Boulevard. Flagler Street and NW First Street are both one-way westbound. If you are headed westbound, you can probably make better time on NW First Street since it is somewhat less congested than Flagler Street. On the other hand,

Flagler Street offers a more leisurely pace, somewhat wider lanes and an excellent street surface.

Again, you need to watch out for trucks unloading, persons opening car doors in your path, right- and left-turn only lanes, and jay-walking pedestrians. Do not ride against traffic on these streets. If you must, then dismount and walk your bike on the sidewalk. These streets are not only congested, but well-policed as well and riding against traffic is a sure invitation to disaster or a ticket.

The Flagler Street and First Street bridges are both relatively new structures, with wide lanes and ample room for cyclists. They provide direct access to all the major downtown office buildings, courthouses, and the new cultural center under construction. The Fifth Street bridge is a two-lane two-way bridge on the northeast fringe of downtown. Fifth Street, immediately east of the river, is a one-way street eastbound all the way to Biscayne Boulevard. It is a direct route to Miami Marina and Bayfront and Bicentennial Parks. It passes close to the downtown Post Office, the Federal Courts, the City of Miami Police and City Administration building, and the State of Florida Health and Rehabilitative Services building. The Omni-Plaza Venetia area is just seven blocks north on Biscayne Boulevard.

The Fifth Street Bridge also provides access to North River Drive, a two lane, two-way street which follows the north bank of the Miami River between Fifth Street and the Second Avenue Bridge, passing shady Lummus Park, Florida East Coast Fisheries (where you can eat fresh fish on the premises or take it with you), and the headquarters of the Metro-Dade Community Action Agency. In Lummus Park look out for the pioneer wooden homestead being renovated by conservationists.

NW Seventh Avenue stretches north from the Fifth Street bridge, four bleak lanes of asphalt bordering one of Miami's more blighted areas. But just two blocks north of the bridge at NW Seventh Street there is a little hump-backed bridge over a small branch canal on the west side of Seventh Avenue. This bridge leads you into the quiet Spring Gardens aea, one of Miami's earliest residential aeas and an area worth exploring by bicycle. It offers a pleasant alternative route into the hospital complex and the Civic Center. The hospital complex/Civic Center area can also be reached from Seventh Avenue via NW 11 Street Road, NW 14 Street, or NW 17 Street.

Parking in downtown is not a problem for the bike commuter. Most office buildings have parking garages which permit bikes to park free of charge. If you work in the downtown area, a few inquiries among your colleagues will soon elicit the information you need about nearby parking facilities. Do not rely on the garage attendant for information about bike parking. Check with your fellow workers or fellow bike commuters who travel to the same area. On a lunch-time trip or other short visit to downtown, many bikers simply lock their bikes to the nearest No Parking sign. Be careful to avoid parking in an area where you might obstruct traffic--pedestrian or vehicular. When parking in the street, I try to park in a well-travelled area where the bike will be in plain view of passersby, thus discouraging thieves and vandals

from tampering with it. I do not recommend parking in the public parking lots under the expressways and in other remote or unsupervised areas. Generally, I avoid the parking lots. Car drivers in these lots are intent on finding a parking space and may not notice a cyclist until too late.

The Omni-Plaza Venetia Area

This rapidly growing commercial center lies on Biscayne Boulevard less than a mile north of downtown. On the east it is bounded by Biscayne Bay. There, on the shores of Biscayne Bay, Plaza Venetia, the Omni Complex, and the Miami Herald building cluster around the western end of the Venetian Causeway. The western half of the area is anchored by the Lindsey-Hopkins educational center and more major retail stores. The area is bisected by Biscayne Boulevard. The southern boundary is Interstate 395 and the northern boundary is NE 17 Street.

The only access from the east is via Venetian Causeway, a toll road from Miami Beach. The MacArthur Causeway to the south is too busy and too fast for bicycles. Likewise, Biscayne Boulevard is too congested for safe bicycle commuting. Metro-Dade and tour buses clog the Boulevard at this point.

From the north or south the best access is provided by NE First or Second Avenue. Access from the west poses some problems. The easy through streets (14 Street and 20 Street) have been the scene of frequent purse snatches and petty street crime in recent years. At this time they cannot be recommended as safe routes for bicycle commuters. Westward bound commuters should generally head south to the downtown area and then west via the Fifth Street bridge. A less desirable and more distant alternative to the north is 36 Street.

The Plaza Venetia-Omni aea is an interesting juxtaposition of the old and the new Miami. Northeast of the Omni complex is the Miami Women's Club--a fine old building of historical significance. At NE Eighteenth Street and Second Avenue is one of Miami's oldest cemeteries. Across 19 Street from the cemetery is Temple Israel with a contemporary womb-like chapel where reflection comes easy in the half light filtering through Miami's most magnificent stained glass windows. Back on the Bay side, Trinity Cathedral, the Episcopalian mother church in Miami, is overshadowed by the encroaching glass, steel and concrete of the high-rise buildings going up around it. It is a bright and cheerful church inside and worth a visit if you have the time. Also note the old coral rock houses scattered throughout the area.

The Civic Center Hospital Complex Area

This area lies just one mile west of the Plaza Venetia-Omni area. It has a working population that rivals that of the downtown area. It is a large area stretching from NW 20 Street on the north to the Miami River on the south, and from NW Eighth Avenue on the east to NW 14 Avenue on the west. It is the location of three major hospitals--Jackson Memorial, Veterans, and Cedars of Lebanon. Allied with the hospitals are several large buildings housing the University of Miami medical school and other medical offices. It is also the

location of the County Jail, a Florida State office building, the Metro-Dade police headquarters, and the criminal courts.

The area is bisected by NW 12 Avenue running north/south and by NW 14 Street running east/west. Both streets are four-lane arterials with heavy traffic, especially at the morning and afternoon rush hours. They are negotiable by bike, even at the rush hours, if you are careful about right-turning vehicles heading onto expressway ramps or into parking lots.

Access to the area from the east--from the Omni-Plaza Venetia area--is via 20 or 14 Streets which, as noted above, are not recommended routes at this time. From the southeast, the downtown area, the easiest route is northwest on North River Drive to Seventh Avenue, then north on Seventh Avenue to the hump-backed bridge (two blocks north of the Fifth Street bridge) or to Eighth Street Road. If you are headed for a destination on or west of NW 12 Avenue, take the hump-backed bridge as it puts you back on North River Drive which intersects with 12 Avenue just north of the bridge. If your destination is Jackson Memorial or the associated medical buildings which cluster around 10 Avenue, take NW Eight Street Road which intersects 10 Avenue at 12 Street.

On the south and southwest the area is bounded by the Miami River and there are only two bridges--both busy. The 12 Avenue bridge provides direct access from the south, but it is always busy and the lanes are narrow. I advise walking your bike over the bridge on the sidewalk. The 17 Avenue bridge is less busy and wider and you do not need to take to the sidewalk. From the Civic Center the bridge is reached via 14 Street or North River Drive. There is a steep overpass from the North River Drive to 17 Avenue. This is not recommended for bikes. Stay on the grade level streets and obey the traffic signals.

Just south of the 17 Avenue bridge there are busy expressway entrance ramps which should be negotiated with extreme care. Automobiles entering and exiting 17 Avenue from the expressway are frequently travelling at speed and drivers may not be on the lookout for bike riders. On the south side of the 17 Avenue bridge is South River Drive, an interesting street for the bike commuter because it leads into some of Miami's quiet old residential and industrial neighborhoods. On the east side of 17 Avenue , immediately south of the river, is a large housing complex for senior citizens and some interesting old homes of pioneer Miamians. On the west side of 17 Avenue just south of the river is the old Sewell Park, site of the residence of one of Miami's first civic leaders. The park is now all but deserted, but worth a visit for its solitude, a beautiful view of the river, and some unusual and magnificent trees. Immediately west of 17 Avenue and south of the river, look for the little canal that flows into the river at the bridge. There is a drop here of more than 20 feet to the water, and rumor has it there are old hidden caves in the limestone cliffs that were once used to conceal contraband brought up the river. Pause on the little bridge and observe it for yourself. It's easy to imagine smugglers rowing into the canal in small boats. Proceeding west on NW South River Drive you pass through a quiet industrial area devoted mainly to marine industries and boat repair. South River Drive soon becomes NW 11 Street, a through street to the west for those with destinations in the west.

If your destination is to the south or southwest avoid SW 12 Avenue and SW 17 Avenue in the vicinity of Flagler Street. These are busy and congested streets with heavy traffic and there are reasonable alternatives. If you have crossed the river southbound on 12 Avenue, make a quick right turn on SW 7 Street and then turn south again on SW 13 Avenue availing of the pedestrian stoplight which serves residents of the Metro-Dade Senior Center. You may use any of the streets around the Orange Bowl as you pedal further south and west. The streets here are wide and relatively uncongested. This is a low lying area where water does not drain well, so watch for standing water in the rainy season. Also be on the lookout for potholes. On days after a major football game, it's also advisable to keep a wary eye on the road for broken glass or other debris remaining from the game.

If you are headed further south, either 14 or 13 Avenue will take you through Miami's oldest Cuban area--world-renowned Little Havana. South of SW Eighth Street, 13 Avenue becomes Cuban Memorial Boulevard, a pleasant tree-lined street with several monuments to Cuban heroes. Be particularly careful when crossing Flagler Street, SW First Street, SW Sixth Street and SW Eighth Street. There is usually a heavy flow of traffic on these streets, and occasionally double-parked vehicles or vehicles parked too close to the intersection will create a hazard. Be certain that you can cross these streets safely and that oncoming drivers do see you. In these areas you must also be on the alert for the inexperienced driver--the recently arrived refugee.

If you are headed southwest, pick up SW 22 Avenue Road, otherwise known as Beacom Boulevard, at the corner of West Flagler and 22 Avenue. This is a wide, four-lane street running southwesterly to the junction of SW Eighth Street and 27 Avenue. This latter intersection is to be avoided because of the difficult traffic patterns in this complex and busy intersection. You can avoid these problems by turning south off SW 22 Avenue Road at 24 Avenue, which is an easy through street all the way to U.S. 1. Again, be especially careful crossing the major east-west arterials. On 24 Avenue your crossing is not protected by a traffic light, so be patient and wait for breaks in the flow of traffic. SW 24 Avenue runs through a pleasant Hispanic residential area which is somewhat less densely populated than the areas further east. Nevertheless, you will still be able to savor the special Latin flavor which distinguishes Miami from most major cities in the United States.

One advantage in bike riding through the Little Havana area is the proximity of several good bicycle shops which will help you out with a quick repair. Just south of SW Eighth Street on the western side of I-95 is the Metro Schwinn Cyclery (#9 on Map 1). On the north side of Coral Way between SW 22 and 23 Streets is the Coral Way Bicycle Shop (#4 on Map 1). You will find that these are complete bike shops with friendly, courteous staff and competent mechanics. I have always found them most helpful.

Heading north from the Civic Center area, NW 10, 12, and 14 Avenues offer easy through streets as far as NW 36 Street. Just north of NW 36 Street the airport expressway presents a barrier to north-south traffic. At this point you will have to take NW 12 Avenue, the only through street to areas north of

the expressway. At rush hour NW 12 Avenue is a busy arterial with buses stopping frequently to pick up passengers. I would recommend choosing NW 10 or NW 14 Avenues at these times, and reverting to NW 12 Avenue only to negotiate the section under the Airport Expressway.

For commuters with destinations in the Hialeah direction, NW North River Drive is the best route as far as NW 22 Avenue, where the road becomes NW 16 Terrace up to Curtis Park. If your destination lies west of NW 27 Avenue, head north on NW 24 Avenue (just west of Curtis Park) to NW 21 Terrace, then turn west to cross NW 27 Avenue. Beyond NW 27 Avenue, NW North River Drive becomes a heavily travelled road through an industrial area. There are several railroad sidings and in places the road surface is in poor condition. It is not recommended for bicycle commuting. Your best bet is to zigzag north and west using the sidestreets in this industrial area.

A word of caution to those who might contemplate biking to work at Miami International Airport--DON'T. LeJeune Road and other airport approach roads are bad news for bicycle riders. They are congested, high speed roads crammed with vehicles rushing to catch a plane. The only exceptions are the streets in the Miami Springs area. I once rode a bike to the airport from downtown via LeJeune. I will not do it again!

The Brickell Avenue Area

The Brickell Avenue area is a rapidly growing office complex just across the Miami River from the central business district. There are also many high-rise apartment buildings further south on the avenue on the Biscayne Bay side. The area is bounded on the north by the Miami River, on the east by Biscayne Bay, on the south by 15 Road, and on the west by South Miami Avenue. The proximity to the Bay and the street patterns in this aea result in a north-south traffic flow with the main artery being U.S. 1, here known as Brickell Avenue.

The pedestrian path on the east side of U.S. 1 was widened in 1981 to accommodate cyclists, and it is part of Metro-Dade's main north-south bicycle route. Most commuting bikers will find the bike route too slow and too hazardous. There are frequent curb cuts into office and residential complexes and several cross streets, all posing special problems for a bike commuter travelling at 10 to 15 miles per hour. There are also conflicts with joggers, dog-walkers, and pedestrian users of the sidewalk.

My advice is to avoid U.S. 1 entirely. There are better alternatives. To the east, Bayshore Drive offers a splendid, wide, newly paved surface with occasional glimpses of Biscayne Bay. This section runs from SE Eighth Street down to 15 Road, and is the logical choice for those with destinations east of Brickell Avenue. To the west, South Miami Avenue and Brickell Plaza offer easy riding for those with destinations on the west side of Brickell Avenue. From Eighth Street down to 15 Road these are two-lane streets with ample room for cyclists. North of 13 Street (Coral Way), South Miami Avenue becomes a one-way street northbound. But at this point Brickell Plaza (SE First Avenue) provides a safe southbound route from SE Eighth Street. East-west

travel within Brickell Avenue is served by a number of streets. Four of these have signalized intersections with Brickell Avenue--Fifth, Seventh, Eighth, and 13 Streets. Seventh and Eighth Streets are a one-way pair, with Eighth eastbound and Seventh westbound. Seventh, Eighth, and 13 Streets, and 15 Road, provide the only access from the west and southwest. The other east-west streets deadend at the old FEC railroad, now the Metro-rail track.

Bike commuters from the north and northwest must cross the Miami River, preferably via the Second Avenue bridge. See the section above on the downtown area, where the crossings over the Miami River are discussed. Once south of the Second Avenue bridge, turn east on Eighth Street if your destination is in the northern half of the Brickell area. If your destination is in the southern half, carry on down to SW 13 Street or 15 Road. Both Eighth and 13 Streets are heavily travelled at rush hour, but you should find that traffic speeds are low in the area east of I-95. There is ample room for cyclists on Eighth Street; the lanes are much narrower on Seventh and Thirteenth.

Approaching the Brickell area from the west, the major arterial is the Seventh/Eighth Street pair. West of I-95, traffic speeds increase on these streets, and here I do not recommend them to the commuting cyclist. There are less busy alternatives once you are west of I-95. To the north, SW 6 Street is the nearest easy through alternative. To the south of Eighth Street, try 11 Street.

Note that I-95, like the FEC tracks, is a barrier to east-west travel in this area. To negotiate I-95 when you are eastbound on 11 Street in the morning, bear right on 15 Road at the junction of SW 11 Street and Fifth Avenue. Go southwest to the junction with 13 Street (Coral Way). There, both streets pass under I-95. This is not a signalized intersection and you might have to wait a long time to cross Coral Way because of the heavy traffic flow on this street. You don't have to wait. My practice is to take to the sidewalk on the north side of 15 Road just before you reach this intersection, and then turn north on Third Avenue which parallels I-95. Because Third Avenue is poorly surfaced here, I immediately turn right on 12 Street over to SW Second Avenue. Then, I proceed on into the Brickell area via SW Eighth Street, or I continue north on Second Avenue into the downtown area.

The same tactic is suggested for those coming into the Brickell area on Fourth Avenue. Fourth Avenue is the recommended alternative to Third Avenue (Coral Way) for those who live somewhat north of Coral Way in the direction of Coral Gables.

If you live in SW Miami or Coral Gables south of Coral Way, I suggest the SW First Avenue route. Here, let me describe the homebound journey. Every evening I leave my Brickell Plaza office building via Brickell Plaza and South Miami Avenue. At SW 14 Terrace I turn right and left again to zigzag over to 15 Road. Just after passing under the Metro-rail track, make a left turn to proceed south on SW First Avenue. This avenue parallels the Metro-rail route all the way to SW 17 Avenue. It's a lightly traveled two-lane road with virtually no cross traffic because of the tracks on the

east side. On this avenue you travel through some of the City's oldest neighborhoods. Some day, pause a while and visit the old Simpson Park at the corner of 15 Road and SW First Avenue. The entrance is on the Miami Avenue side. This is a mature hard-wood hammock and shows Miami as it must have appeared to the early settlers. Be careful not to get lost on the meandering trails in the park. You may never get out!

I usually leave First Avenue at 23 Street to pursue a more westerly route to South Miami and avoid the rush hour congestion at the intersection of U.S. 1 and SW 17 avenue. But if you live south of U.S. 1, e.g., in the Grove area, you may want to take 17 Avenue south. In that case, keep on SW First Avenue until you reach 17 Avenue. Since this is usually congested and left turns onto SW 17 Avenue are prohibited, the best tactic is to dismount at this junction and walk your bike over to the west side of 17 avenue. Then cross U.S. 1 on the green light and proceed south to Tigertail Avenue, which is a pleasant moderately traveled street down into the heart of Coconut Grove. Again, you may want to experiment with alternative side roads in this area. There are many tree-shaded lanes here with unusual homes and attractive landscaping. Be adventurous!

An alternative route for Grovites is the bike path on South Bayshore Drive. Again, this is not recommended for the commuter who wants to travel fast. For the reasons outlined above (curb cuts, sharp turns, pedestrians, etc.), the bike path can only be recommended to those who are content with a more leisurely pace.

The section of South Miami Avenue between the junction with U.S. 1 and 15 Road is a beautiful divided two-lane road with stately palms in the median and royal poincianas on either side. It is a breathtaking sight when the poincianas are in bloom--May and June. Be careful when traveling on this section during morning and evening rush hours. What is normally a wide divided two-lane street becomes a congested divided four-lane highway. Since there are no cross streets in the one-mile stretch, cars often attain speeds higher than the limit and can pass dangerously close to the bicyclist. I generally prefer to ride on SW First Avenue on the other side of the tracks as described above. If you are traveling at non-rush hours and the trees are in bloom, it is worthwhile to glide down South Miami Avenue. Remember that poincianas are "messy" trees, shedding limbs and seed pods and leaves in profusion. While admiring the scenery, be careful not to lose sight of the road ahead. Be on the lookout for fallen branches that might throw you off, particularly after rainstorms or high winds.

The Dadeland Area

The Dadeland area is the current southern terminus of Metro-rail. It is a major shopping and office center. This area and the adjacent South Miami, University of Miami, and the downtown Coral Gables areas are presented on Map 2 (see inside back cover). The Dadeland Shopping Center is located on the north side of North Kendall Drive between the Palmetto Expressway and U.S. 1. It is bounded on the north by the Snapper Creek Canal. On the north side of the canal is a concentration of garden apartments and town-houses. To the

south, across North Kendall Drive, is a high-rise office area with additional retail outlets and some theaters. The entire area is generally triangular in shape with the Palmetto forming the western boundary, SW 80 Street (and State Road 784) the northern boundary, and U.S. 1 the southeastern boundary. All of these boundary roads constitute barriers for the bicyclist heading for the Dadeland area although they provide the motorist with excellent access.

North Kendall Drive in the Dadeland area is a six-lane divided highway which is always congested. Use it only when you must. Otherwise, use the service roads connected with the shopping center or with the office complex. Fortunately, traffic is usually so congested that speeds are quite low. Be on the lookout for tired or distracted shoppers turning unwittingly into your path.

From the north there is only one street suitable for the bicyclist--SW 72 Avenue, sometimes known as Milam Dairy Road. From SW 80 Street into the Dadeland complex, the street has been recently widened to four lanes, but north of 80 Street it remains a residential two-lane street. Watch out for the high curbs on the sidewalk over the Snapper Creek canal. Otherwise, the street is hazard free and offers pleasant riding as far north as Miller Road (SW 56 Street). North of Miller there is a long open stretch through an old industrial area, the southern half of which is now a residential development. This stretch of two-lane street is bumpy in places, particularly near the Rinker cement plant. Further, it is intersected by old railroad sidings. The absence of cross streets in this stretch often results in speeding traffic. If your destination is north of Miller, I suggest that you travel east on Miller to 67 Avenue, a quieter and slower two-lane arterial. This street is also known as Ludlam Road and provides an alternative north-south route to the Dadeland area. To get to Dadeland from the north on Ludlam, go south to 80 Street, turn west on 80 Street to 72 Avenue, then turn south on 72 Avenue.

Ludlam and 72 Avenue also provide access to the Dadeland area from the south. South of North Kendall Drive, both streets are relatively traffic-free, two-lane streets through a quiet residential area. There is a bike path on 67 Avenue, although it is quite narrow and not entirely suitable for the commuting cyclist.

Heading north on Ludlam from south of the Dadeland area, turn west on North Kendall Drive which falls one block here becomes a four-lane highway. Cross U.S. 1 on North Kendall using the traffic light. Watch out for late turning traffic heading north on U.S. 1. It seems there is always someone running the red light coming out of the Dadeland area. Once across U.S. 1, take 72 Avenue north if your destination is north of North Kendall, or turn south on Dadeland Boulevard if your destination is to the south.

One way of avoiding the congestion and the speeding traffic at the intersection of Kendall Drive and U.S. 1 is to use Dadeland Boulevard as your southern approach to the shopping center. Dadeland Boulevard runs north from U.S. 1 to Kendall Drive right in the middle of the shopping center. The U.S. 1-Dadeland Boulevard intersection is controlled by a traffic light. But

there is little time for north-bound traffic to cross U.S. 1 because south of U.S. 1 Dadeland Boulevard or SW 72 Court runs for only a block alongside the Burger King restaurant before being blocked by a barricade. The barricade was placed there to prevent motorists from Dadeland traversing the quiet residential back streets in this area. The barrier is, however, negotiable by bicyclists, and I imagine that neighborhood residents would have little objection to the occasional cyclist. To reach 72 Court from 67 Avenue, head west on 96 Street to 73 Avenue which curves to the right becoming 73 Road and is intersected in mid-block by 72 Court. If you are coming north on 72 Avenue, say from 104 Street or beyond, you should use the same route. Head one block west to 73 Avenue at 96 Street and proceed across U.S. 1 via 72 Court and Dadeland Boulevard. If you feel like you're "hungry for Burger King now," do not hesitate. This Burger King is the closest outlet to the company headquarters (across the street in the Dadeland office complex). Their sandwiches are the best of the Burger Kings.

Approaching Dadeland from the east, North Kendall Drive offers direct access across U.S. 1. East of 67 Avenue, Kendall is a moderately busy two-lane arterial through a wooded residential area following the Snapper Creek Canal as far east as Red Road (57 Avenue). The block between 67 Avenue and U.S. 1 has been widened to four lanes. Access to Dadeland from the east is also possible on 80 Street, about eight blocks north of North Kendall Drive. SW 80 Street is much less busy than North Kendall Drive and offers a much safer crossing of U.S. 1. For that reason, it is to be preferred. Once west of U.S. 1 on 80 Street, proceed west to 72 Avenue and turn south into the Dadeland area. And eight blocks to the south of Kendall, there is 96 Street, which offers access via Dadeland Boulevard as described above.

From the west, access to the Dadeland area is limited to North Kendall, a busy and congested arterial highway with a dangerous intersection with the Palmetto Expressway just west of the shopping center. Immediately west of the Palmetto there are useable sidewalks on North Kendall Drive, and further west still there are excellent parallel service roads which offer easy travel for the biker. But the intersection with North Kendall and the Palmetto is busy and difficult to negotiate. At this point, I recommend that you ride slowly on the sidewalk and look carefully before using the crosswalks at the entrance ramps to the expressway. Traffic on these ramps often travels at high speeds.

The South Miami-University of Miami Area

Just north of the Dadeland area is the South Miami/University of Miami Area. The main campus of the University of Miami and the South Miami Area are less than a mile apart. The University of Miami is in the southwestern corner of the City of Coral Gables. The South Miami Area is the business district of the City of South Miami, and lies just southwest of the University. It is centered at the junction of U.S. 1 and Sunset Drive (SW 72nd Street), about one mile northeast of Dadeland.

The University of Miami and the South Miami Area are two separate areas. They are treated together here because of their proximity to each other and because planned future expansions of the South Miami Area will bring them still closer.

(1) The South Miami Area

Let's start with the South Miami Area. This area is bounded on the north by 70 Street; one the west by 62nd Avenue; on the south by 74th Street; and on the east by 56th Avenue and Yomura Street. The area is bisected by U.S. 1. To the west lies the South Miami Civic Center (City Hall, police fire/rescue, library, and community center), South Miami and Larkin Hospitals, and a number of high rise office buildings, primarily doctors' offices. Also to the west of U.S. 1, is the South Miami industrial area, just north of Sunset. To the east of U.S. 1 is a bustling retail area of small shops and restaurants. Here also is the Holsum Bakery, currently occupying the bulk of the land fronting on U.S. 1, filling the highway with the unforgettable smell of freshly baked bread. Yes, there is an outlet on Red Road just east of the bakery where you can purchase a wide variety of baked goods at very reasonable prices. The bakery will move soon to new premises in Northwest Dade so savor it while you can. A multi-purpose commercial center is planned for the old bakery site, similar to the Omni complex in downtown Miami.

The South Miami Area is a lot more accessible to the cyclist than the Dadeland area. There are no major barriers. From the north, SW 62nd Avenue offers easy access to the western half of the District. The eastern half is reached via Red Road. Both SW 62nd Avenue and Red Road are two-lane arterial streets with moderately heavy traffic. SW 62nd Avenue becomes somewhat narrow just north of Larkin Hospital and there are some dangerous potholes on the shoulder of the road. Just south of Larkin there is a low spot in the street that is subject to flooding in the rain. If the street is flooded, simply switch to the sidewalk.

On Red Road, be careful when crossing U.S. 1, since this is a busy intersection with all of the attendant hazards. Just south of U.S. 1, angle parking on Red Road may also pose a hazard, so be on the lookout for careless drivers backing out into the street. On Red Road (north of U.S. 1) you might consider switching over one block to the east to enjoy the light traffic and pleasant ambiance of Alhambra Circle and San Amaro Drive. Here you will pass the University of Miami baseball stadium (Mark Light Field). Look for the fraternity houses across the street from the playing fields and dormitories. Further north, Alhambra Circle (which is part of the Coral Gables bicycle route) curves through a beautiful tree-shaded residential area. Keep on Alhambra and you will eventually ride all the way round to the north side of the Coral Gables Business District. Because traffic is lighter and speeds are lower on Alhambra, it is a recommended alternative to Red Road. However, you do need to use the Red Road traffic light so that you can cross U.S. 1. Southbound left turns from Ponce to Red Road are prohibited, but there is a controlled intersection at Red and Levante (one block north of Ponce) which will enable you to cross over in safety to the west side of Red as you head south.

Access to the South Miami Area from the west is via Sunset Drive, a four-lane divided and landscaped arterial street. There are side streets both north and south of Sunset, if you find the traffic on Sunset too heavy or too fast. However, these side streets are interrupted by a canal which zigzags in a north/south direction at about 65th Avenue. They are also interrupted

by the railroad track at 70th Avenue and by the Palmetto Expressway at 77th Avenue. At these points you will be forced back to Sunset. The nearest alternate through streets are 64th Street (Hardee Road) to the north, and 80th Street to the south.

From the south, as from the north, access is via 62nd Avenue and Red Road. Here again, these are two-lane arterials but are not an undue hazard for bicycle commuters. South of U.S. 1, you will find traffic on 62nd Avenue to be light since the street terminates at the Snapper Creek Canal at 86th Street. To cross the canal you must go west to 67th Avenue via 84th Street, or head east to Red Road. Easy through streets to Red Road are 80th Street, 82nd Street, or 84th Street. An interesting alternative, if you have the time, is to zigzag south and east on 86th and 87th Streets into the west end of Dante Fascell Park--a large tree-shaded park with tennis courts, and playground equipment.

Traffic on Red Road is heavy, especially at rush hour, but should pose little trouble to the bicycle commuter since the pavement is fairly wide and speeds are generally moderate. Again, watch for parked cars in the South Miami retail area close to Sunset. This is a congested area and motorists looking for elusive parking spaces might stop suddenly or fail to notice the bicycle rider.

From the east, access to the South Miami Area for the bicyclist is via Sunset Drive. Here, Sunset is a pleasant two-lane arterial through a residential area as far as Old Cutler Road. The street has moderately heavy traffic, but the pavement is wide, and there is little in the way of hazards to the bike rider. There is also a reasonably smooth sidewalk on the north side of the Street. An alternative route on the north is the scenic and sedate Alhambra Circle which will take you past some very distinguished residences with magnificent landscaping. To the south, 76th Street offers an easy through route, as does 80th Street, still further south.

(2) The University of Miami

Turning now to the main campus of the University of Miami, the boundaries of this area are Campo Sano Avenue to the north, San Amaro Drive to the west, U.S. 1 to the south, and Granada Boulevard to the east. Classroom buildings and parking lots are generally to the north (north of theoretical Miller Road) and dormitories and recreational areas are generally to the south. Again, access by bicycle is relatively uncomplicated, and many students, professors, and administrators can be seen daily pedalling to and from the university. You will find that most motorists on the streets around the university are educated to the presence of cyclists and will tend to give you more consideration when passing.

There are three barriers to completely free access to the University of Miami by bicycle. First, there are the golf courses to the north (the Riviera and Biltmore courses); then, the Coral Gables Canal to the east; and finally, U.S. 1 to the south. However, these barriers are fairly easily circumvented on some of the finest cycling routes in all of Miami.

From the north, bicycle commuters must chose a route either east or west of the golf courses. San Amaro Drive or Alhambra Circle both run north-south on the west side of the golf courses. Alhambra Circle is a wide two-lane street and, as noted above, is part of the official Coral Gables bicycle route. San Amaro Drive, which becomes one with Alhambra Circle just north of Bird Road, is a quiet neighborhood street which becomes somewhat congested in the vicinity of the university.

On the east side of the golf courses, the major north-south route for cyclists is Granada Boulevard, a tree-shaded street through a beautiful residential area. You pick up Granada at the university by crossing the canal on Blue Road just north of Doctor's Hospital, or on Pisano, just south of the hospital. The hospital occupies the northeast corner of the university area. It is not affiliated with the university, which operates its own medical school down in the Jackson Memorial complex. Granada can be busy at rush hours, and the crossing of Bird Road is a congested area where three streets intersect. I suggest that you avoid this intersection by detouring one block east to Toledo Street. If you are northbound, take San Lorenzo or Altara to Toledo. Coming south on Granada take Alegriano over to the junction of University and Toledo. With an occasional short delay, you will be able to cross Bird Road in the rush hour. Traffic usually builds up at this point and comes to a halt in rush hour when the light turns red at the junction with Granada one block away. Again, be careful when crossing Bird. Traffic on this street sometimes exceeds the speed limit and oncoming traffic may approach much faster than you anticipate.

On the north side of Bird Road, University Drive offers an easy through street to the cyclist bound for downtown Miami or downtown Coral Gables. University Drive is a two-lane arterial and runs northeast through tree-shaded residential areas until it crosses LeJeune Road into the Coral Gables downtown area. If offers an easy through route to Ponce de Leon Boulevard which in turn leads into the heart of the Coral Gables Business District.

As you ride along University Drive you will see the Coral Gables branch of the Miami-Dade Public Library on the north side of University at Segovia. The Library has a convenient bicycle rack and offers a pleasant rest stop on the way home on long summer evenings. Just north and east of the library is a large open playing field, which is the original site of the University of Miami. This field is now part of the Coral Gables Youth Center, located immediately to the north. On the northeast corner of the intersection of University and LeJeune Road notice the ornately styled apartment house that stretches down the entire block--the San Salvador Apartments. These apartments were originally dormitories for the University of Miami at the old site. They were known then as "cardboard college"--in praise, no doubt, of the quality of construction.

From the east and south, access to the university is limited by the Coral Gables Canal and U.S. 1. There are four recommended routes. The most northerly is Blue Road which offers relatively easy access to the university via Granada or University Drive. Just beyond the intersection with LeJeune,

Blue Road crosses U.S. 1 and becomes Grand Avenue leading on into Coconut Grove. This stretch of Grand Avenue (between U.S. 1 and Douglas Road) is under contruction and will be torn up for most of 1982. At this time, I do not recommend that you travel on this section of Grand. There are no nearby alternative east-west routes.

If your destination is in the central or south Coconut Grove area, I suggest that you use the Granada/Miller access route to the university. This route also starts at Blue Road northeast of the University, but once across the bridge over the canal, turns southeasterly on Granada and crosses Ponce and U.S. 1 to the junction of Mendoza and Sansovino. At this junction you have a choice. You can go one block northeast on Mendoza; then head east on Amalfi to Loquat and Kumquat Avenues, and then via Charles or Franklin Avenues to Main Highway. The alternative, and my recommended route, is to go one block east on Sansoveno to Maggiore, and then four blocks south to Miller. At Miller, head due east across LeJeune, where Miller becomes Poinciana, one of Coconut Grove's most scenic streets. Poinciana offers direct access to Main Highway with its bicycle path.

The third southeasterly route is more southerly than easterly. Cross the canal at University Drive and Pisano (the southern corner of Doctor's Hospital), then head southeast on Granada Boulevard across U.S. 1 and on down to the junction of Sunset and Old Cutler Road.

The fourth, and most southerly, of the southern and eastern access routes leaves the university campus just northeast of Mark Light Field at the junction of South Alhambra circle and U.S. 1. Once across U.S. 1 and safely on the south side of the highway, you have a choice of two alternatives. First, you can continue southeasterly on South Alhambra Circle, a scenic and lightly travelled street as far as Veronese or Granada, both of which lead to Sunset near the intersection with Old Cutler Road. The alternative, and the more direct route if your destination is north of the Coral Gables canal, is to take advantage of the service lane of the motel on the south side of U.S. 1 at South Alhambra Circle. Cross the canal to the northern side of the motel. Then turn right on Caballero and immediately east on Hardee which offers direct access to Old Cutler Road, or Ingraham Highway as it is known in this stretch. Don't go all the way to Old Cutler, because the old highway is very narrow at this point and a danger to bicyclists. Instead detour one block north at Braganza to Park Avenue and then proceed east to Douglas Road (37th Avenue). Here you can pick up the Coconut Grove Bike Trail, a scenic if somewhat slow path into the Grove business district.

University commuters from the south may also want to use the South Alhambra Circle route into the university. Southbound, where South Alhambra Circle curves east, you simply head south on Maynada (which becomes Ponce de Leon), or take Trionfo Avenue a few blocks west, which becomes SW 52nd Avenue, of Schoolhouse Road. Note that Maynada crosses the canal which parallels South Alhambra Circle and offers direct access to the northern part of the campus via the main entrance at Miller Drive. Those headed for the northeast corner of the campus or Doctor's hospital will find the Maynada or Granada Boulevard routes offer the best access to this area.

Additional access from the south is available via Red road, Levante, and Alhambra Circle, is detailed in the discussion of the South Miami area, which lies directly southwest of the main campus. Routes connecting the two activity centers are presented in the treatment of the South Miami area above.

One note of caution must be sounded about riding on Ponce de Leon in the vicinity of the university. The road here has recently been expanded to four lanes and offers a nice open stretch of smooth pavement. However, I have found that automobiles tend to speed on this stretch, and since it is a congested area at rush hours, you may find fast moving traffic passing dangerously close to you. My advice? Avoid Ponce de Leon in the vicinity of the University of Miami. There are alternatives on the south side of U.S. 1, and on the university campus itself.

From the west there is no shortage of direct access routes to the university. Blue Road offers easy through cycling on the northwest side. Blue Road is a narrow two-lane street in this area and is heavily travelled at rush hour. Be sure to keep well to the right especially when you see oncoming traffic. Remember that the lanes here are narrower than usual and some cars may pass you too close for comfort. Alternatives are 49th and 50th Streets. Westbound cyclists should note that Blue Road and other side streets in this area dead end at the railroad at 69th Avenue. To travel further west, take 68th Avenue south to Miller Road (56th Street).

Miller Road offers direct access to the central part of the campus. It is a comfortable two-lane arterial that is heavily used at rush hours. Auto speeds are generally reduced at these times and the lanes are reasonably wide. Look out for rocks in the road at the junction with 62nd Avenue and also watch for potholes after rain storms in this area. The stretch of Miller between Red Road and the university is very narrow and you might want to consider taking the side streets immediately north or south of Miller for this stretch.

To the south, 64th Street (Hardee Road) offers direct access to the campus in the vicinity of the playing fields and Mark Light Stadium. Hardee Road is a recently reconstructed arterial through the heart of the Lee Park renewal area. Surfaces are smooth, pavement is wide, but watch for broken glass in the street. Hardee Road extends as far west as the Palmetto Expressway.

If your destination is north of Bird and west of Red Road, I suggest you use Alhambra Circle to SW 34 Street as the easiest route. Do not attempt to ride on Bird Road. West of Red Road, Bird is a six-lane arterial and should be avoided. East of Red Road, Bird becomes a four-lane arterial but traffic is too heavy and too fast for comfort in my experience. Use the alternatives I have outlined.

The Coral Gables Business District

The Coral Gables Business District is a bustling retail and office complex centered on Miracle Mile and Ponce de Leon Boulevard. It is "downtown" Coral Gables. On the west it is bounded by LeJeune Road, a busy four-lane arterial providing direct access to Miami International Airport. The eastern

boundary, five blocks to the east, is Douglas Road, another busy four-lane arterial. Linking the two is the justly famous Miracle Mile--the showcase shopping center and "main street" of Coral Gables. The business district is located on either side of Miracle Mile. There is a concentration of highrise office buildings three blocks north of Miracle Mile on Alhambra Circle. The northern boundary here is Minorca Avenue; Palermo is the southern boundary.

Access by bicycle from almost any direction is relatively uncomplicated. There are no major barriers. Coral Way, the major east-west arterial which bisects the area is a reasonable route for the experienced bicycle commuter. On the east, Coral Way is a four-lane divided arterial with pleasant shade trees in the median. The road has recently been resurfaced and new curbs and gutters have been laid. While the street is heavily travelled almost continually, the riding surface is wide and traffic speeds are moderate. The greatest difficulty that the bike commuter will encounter is the frequent stopping and starting of buses and the on-street parking in front of retail stores. Give these parked cars a wide margin when passing. Be on the alert for drivers pulling in to the curb in front of you, or a parked car door opening unexpectedly in your path. I have found it worthwhile to try to see into parked cars in front of me. If there is a person sitting in the driver's seat, I am especially alert for the suddenly opened door or the vehicle nosing out into traffic in front of me. If you are not an experienced commuter I suggest that you use an alternate route either north or south of Coral Way. Fortunately the side roads in this area are uniformly excellent. On the south side I recommend either 23rd or 24th Street. Note that 23rd Terrace is also an excellent route, but it is interrupted for a block just east of 27th Avenue. On the north side of Coral Way, 21st Street offers an easy through street. Note that you will have to jog a half block north to 20th Street in the section between 27th and 32nd Avenues.

On the west side of the Gables business district, Coral Way is a tree-shaded two-lane arterial all the way to Red Road. In this stretch you will find the old home of George Merrick now preserved as a memorial to the founding father of Coral Gables. The two blocks immediately west of LeJeune are one-way west bound. Do not attempt to ride the wrong way on this section. If you are east bound, simply follow the traffic signs. Go one block south on Segovia and then east on Biltmore Way into the Miracle Mile area. Again, there are excellent alternatives to Coral Way on the west side of Miracle Mile. To the north, there is Alhambra Circle, a two-lane boulevard with a beautiful landscaped median strip. This street is part of the official Coral Gables bike route and offers an easy through route to areas north and west of downtown Coral Gables.

At Ferdinand Street, two blocks east of Red Road, Alhambra Circle curves southward and continues south to the University of Miami. South of U.S. 1, Alhambra runs southeast to the junction of Old Cutler Road and Sunset. It is a pleasant and relaxing route.

One block west of the intersection of Alhambra Circle and Ferdinand, marked by an historic Coral Gables tower, lies Country Club Prado, a scenic Gables boulevard and linear park running from Eighth Street to Sevilla. It is worth

a detour some day. Also in this area there is North and South Greenway Drives bordering the Granada Golf Course, where the greatest danger to the cyclist is an errant golf ball.

On the south side of Coral Way to the west of Miracle Mile, there are several streets which offer easy alternates to the bicycle commuter. Of particular interest are two streets which break the regularity of the grid pattern-- De Soto Boulevard and Indian Mound Trail. De Soto runs from the corner of Coral Way and Anderson Road to the old Biltmore Hotel. As you travel the tree-shaded boulevard watch out for the beautiful Venetian Pool, on the south side of the street just east of the Granada fountain. Again, this is a spot worthy of your stopping and lingering from time to time.

At the Biltmore, the Metropolitan Art Museum is also worth a visit. In this area, take time to inspect the beautiful Spanish style Coral Gables Congregational Church. On a summer evening the sun slants through the windows of this church with a golden glow which brings an almost tangible serenity to the sanctuary. Further west on Anastasia, and still in the shadow of the Biltmore, is another notable Spanish style church, the Catholic church of the Little Flower, another Coral Gables landmark. North of the church is St. Theresa's parochial school, and winding north and east away from the school is Indian Mount Trail, which runs down to Coral Way at the junction with Columbus Boulevard. Indian Mound Trail does in fact run "down" from St. Theresa's. The school is located on one of the higher elevations in the Coral Gables area, and this is one of the few "hills" you will encounter in Miami.

In the downtown Gables area, I suggest that you avoid riding on Miracle Mile itself. The one-mile strip is a six-lane arterial, with angle parking which is particularly hazardous to the cyclist. Instead use any of the streets north or south of the Mile, being sure to observe the one-way patterns in these streets.

The major access route to the Gables business district from the south is Ponce de Leon Boulevard--a divided two-lane arterial which becomes a four-lane arterial just north of the Circle. If Ponce is too busy for your liking, Salzedo offers an acceptable alternative. Do not use LeJeune or Douglas Roads. They are just too busy and too fast for the bicycle commuter. Use one of the alternatives presented above. If you are headed southwest from the Gables business district, you can pick up University Drive just south of the circle on Ponce de Leon. It provides direct and easy access all the way to the junction of Bird Road and Granada (see the discussion of access to the University of Miami for some pointers on negotiating this intersection).

On the north side of the Gables business district, Ponce de Leon again offers a major through street. In this area Ponce is a four-lane arterial with fairly heavy traffic and hazardous angle parking in some sections. If you are not an experienced bicycle commuter--and even if you are--you should consider using Salzedo--one block to the west--or Galiano--one block to the east. Both of these are two-lane through streets with moderate traffic loads.

APPENDIX I - BIKE SHOP LISTS

Bicycle Shops Along The Way

Here is a list of bicycle shops adjacent to the routes presented in this report. The number of each shop corresponds to the numbered dots on the maps. Most of the shops have complete repair facilities and many will do minor repairs while you wait--particularly if they know that you are a regular customer.

1. Dade Cycle Shop. 3043 Grand Avenue, Coconut Grove.
   443-6075. Raleigh Dealer. Rentals.

2. Bicycle Store of South Miami. 5887 S.W. 73rd Street.
   665-0125. Raleigh Dealer.

3. Bird Road Cycle Shop. 8448 S.W. 40th Street
   221-3264.

4. Coral Way Bicycle Shop. 2241 Coral Way.
   856-5731. Raleigh Dealer.

5. DJs Cycles. 6600 S.W. 80th Street.
   666-6555.

6. Gables Honda and Bicycle Store. 234 Bird Road.
   444-7652.

7. Mack Cycle. 5995 Sunset Drive.
   661-8363. Schwinn Dealer.

8. Magic Bicycle Shop. 3619 S.W. 8th Street
   448-5800.

9. Metro Schwinn Cyclery. 818 S.W. 4th Avenue
   858-3132.

10. Niagara Bicycle Center. 3237 N.W. 7th Street.
    649-4480. Raleigh Dealer.

11. Southern Cycle Exchange. 6348 S.W. 8th Street.
    261-2288.

Other Bicycle Shops in Southwest Dade County

Here is a list of other bicycle shops that are not as close to the routes presented in this guide. They are off the maps. But they may be close to your home or you may find them convenient on weekend rides.

1. Belda Bicycle Shop. (332 S.W. 56th Street.
   279-6522.

2. Bike Stop. 17039 South Dixie Highway.
   238-2857. Schwinn Dealer.

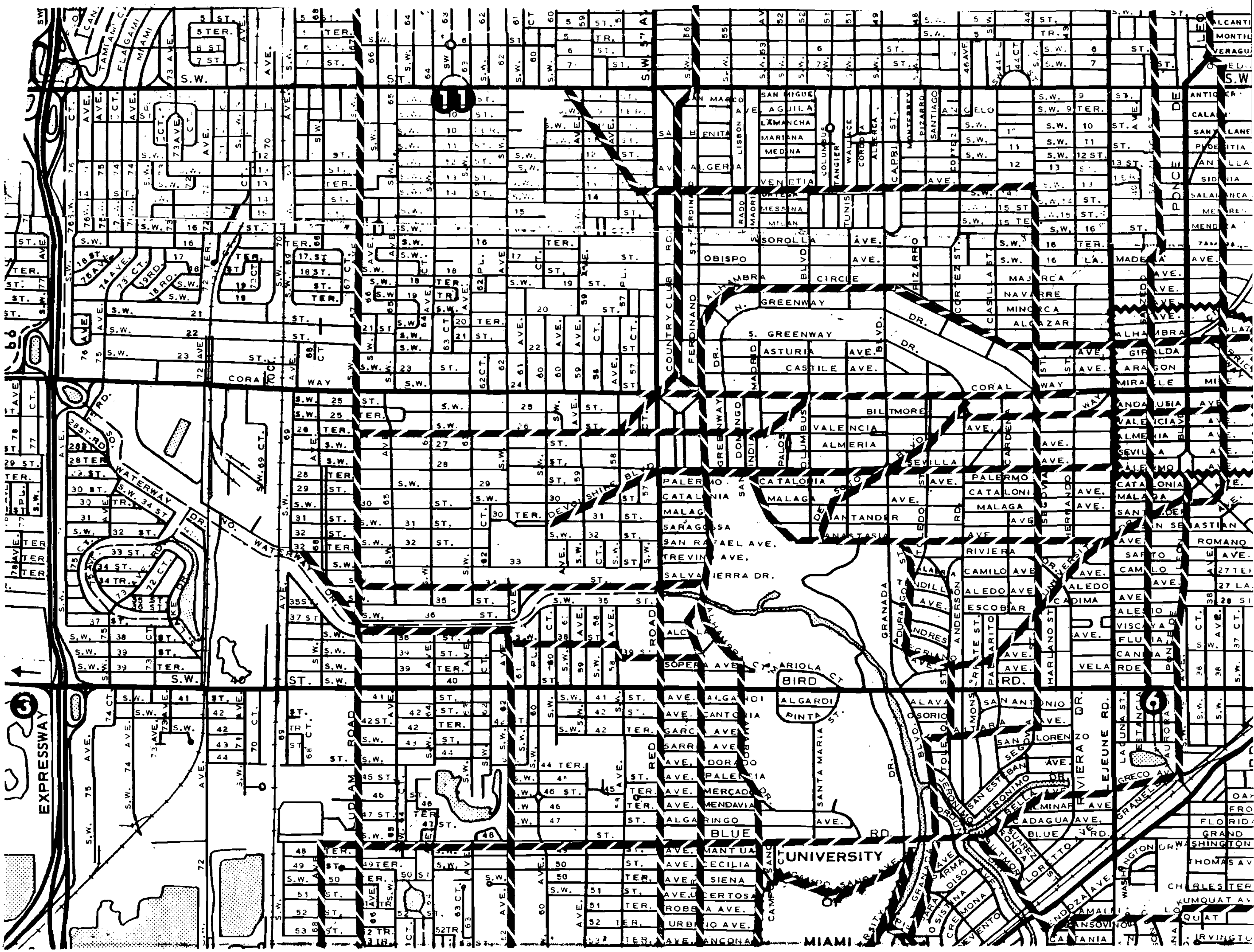
3. The Cycle Mart Inc. 13799 South Dixie Highway.
   238-5080. Raleigh Dealer.

4. Cycle World. 9541 S.W. 40th Street.
   221-2123. Raleigh Dealer.

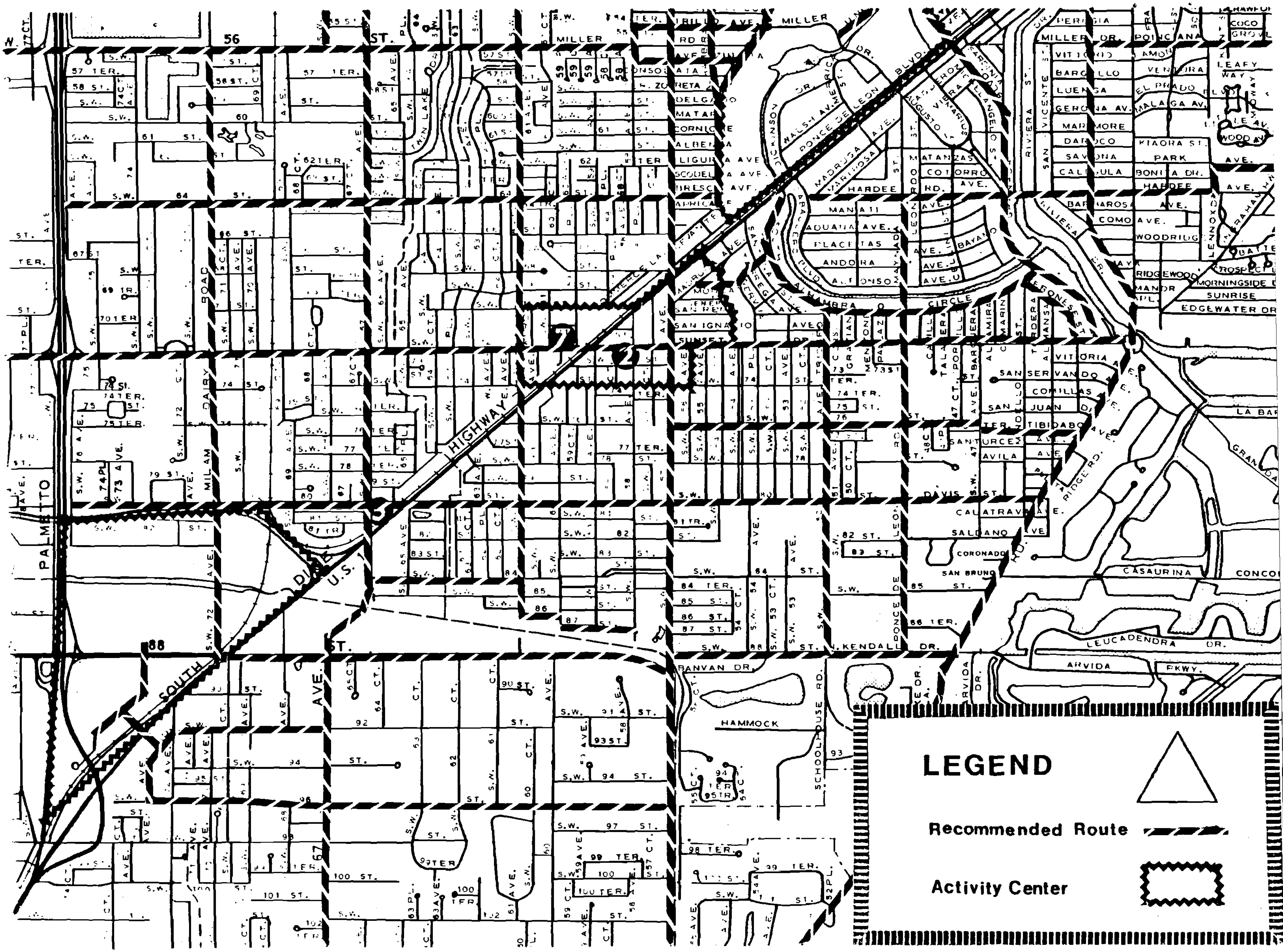
5. The Place for Wheels. 130001 North Kendall drive.
   596-0056.

6. Raleigh Bicycles of Kendall Mall Inc. 8941 S.W. 107th Avenue.
   2790-4111.

7. Sweetwater Bicycle Shop. 10508 West Flagler Street.
   223-4765.



EXPRESSWAY
CORAL WAY
LUDLAM ROAD
RED ROAD
COUNTRY CLUB RD.
PONCE DE LEON
WATERWAY DR.
DEVONSHIRE BLVD.
ALHAMBRA CIRCLE
N. GREENWAY
S. GREENWAY
GRANADA BLVD.
BILTMORE WAY
BIRD RD.
BLUE RD.
UNIVERSITY
MIAMI
SANTA MARIA ST.
ANDERSON RD.
LEJEUNE RD.
RIVIERA DR.
SEGOVIA
DE SOTO BLVD.
SEVILLA
VALENCIA
ALMERIA
PALERMO
CATALONIA
MALAGA
SANTANDER
ANASTASIA
SARAGOSSA
SAN RAFAEL AVE.
TREVINO AVE.
SALVATIERRA DR.
OBISPO
SOROLLA
ASTURIA
CASTILE AVE.
GRANELLO
WASHINGTON DR.
GRAND
FLORIDA
GRECO
ALGARDI
PINTA ST.
CANTORIA
DORADO
MERCADO
MENDAVIA
ALGARINGO
MANTUA
CECILIA
SIENA
CERTOSA
ANCONA
CADAGUA AVE.
ALMINAR AVE.
SAN LORENZO
SAN ANTONIO
ALAVA
OSORIO
CREMONA
LORETTO
BILTMORE
MENDOZA AVE.
KUMQUAT AV.
CHARLES TER.
THOMAS AV.
ROMANO
SAN SEBASTIAN
CAMILO AVE.
ALEDO AVE.
ESCOBAR
RIVIERA
MAJORCA
NAVARRE
MINORCA
ALCAZAR
ALHAMBRA
GIRALDA
ARAGON
MIRACLE
ANDALUSIA
SAN MARCO
AGUILA
LAMANCHA
MARIANA
MEDINA
ALGERIA
VENETIA
MESSINA
MILAN
COLUMBUS
TANGIER
CAPRI
PIZARRO
SANTIAGO
ANGELO
TAMIAMI CANAL
FLAGAMI
ANTIOCH
CALABRIA
MONTILLA
VERAGUA
ALCANTARA
MENDOZA
SIDONIA
SALAMANCA



LEGEND
Recommended Route
Activity Center
PALMETTO
MILAM DAIRY ROAD
SOUTH DIXIE HIGHWAY U.S. 1
PONCE DE LEON BLVD.
KENDALL DR.
SCHOOLHOUSE RD.
HAMMOCK
LEUCADENDRA DR.
ARVIDA PKWY.
CASAURINA
MILLER DR.
HARDEE
ALHAMBRA CIRCLE
RIVIERA DR.
RIDGEWOOD
MORNINGSIDE DR.
SUNRISE
EDGEWATER DR.
SAN SERVANDO
COMILLAS
SAN JUAN
TIBIDABO AVE.
SANTURCE
AVILA
DAVIS
CALATRAVA AVE.
SALDANO
CORONADO
SAN BRUNO
ANDORRA
PLACETAS
ADUANA AVE.
MANATI
MADRUGA AVE.
MATANZAS
COTORRO
SAN IGNACIO
SUNSET
VITTORIA
BANYAN DR.

APPENDIX II - READER FEEDBACK

YOUR EXPERIENCE AND COMMENTS . . .

Now it's your turn. This Guide is based on the limited experience of only one person although every effort has been made to gather the observations and experience of other bike commuters in Miami. If you have read this far, either you are already a bike commuter and have some personal observations, or you are serious about bike commuting and will have some reactions. Your fellow bike commuters and I could use your advice and comments.

This Guide is an initial and imperfect attempt to help bike commuters. It can become immeasurably better if you will take the time and trouble to give us the benefit of your experience. Based on feedback from people like you, I hope to be able to produce an improved and an expanded version of this Guide in the near future. If you provide me with your insight, I will attempt to see that you will be among the first to receive the updated and expanded edition.

Please tear out the following page and mail with your comments to

Oliver Kerr, AICP
6251 S.W. 58th Street
Miami, FL 33143

Your comments will be greatly appreciated. Thank you.

EVALUATION AND COMMENTS

NAME _____ TELEPHONE _____

ADDRESS _____

What I like best about this Guide _____

What I liked least about this Guide _____

Here are my routes and suggestions _____

Fold in along the dotted lines.
Be sure that mailing address is outside.

Oliver Kerr, AICP
6251 S.W. 58th Street
Miami, FL 33143