



THE CONSERVATION-MINDED CITIZEN'S GUIDE TO TRANSPORTATION PLANNING

How to Get Involved in Minimizing
The Impacts of Roads on Florida's Wildlife



May 2003

Acknowledgments

Defenders of Wildlife is grateful to the Elizabeth Ordway Dunn Foundation for making this project possible. Our thanks to Bob Romig of the Florida Department of Transportation, Louise Fragala of Powell, Fragala and Associates, Tom Turton of URS Corporation and Laurie Macdonald and Laura Hood Watchman of Defenders of Wildlife for reviewing and improving the manuscript.

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About Defenders of Wildlife

Defenders of Wildlife is a leading conservation organization recognized as one of the nation's most progressive advocates for wildlife and its habitat. Defenders uses education, litigation, research and promotion of conservation policies to protect wild animals and plants in their natural communities. Known for its effective leadership on endangered species issues, Defenders also advocates new approaches to wildlife conservation that protect species before they become endangered. Founded in 1947, Defenders of Wildlife is a 501(c)(3) membership organization with headquarters in Washington, D.C. and 450,000 members nationwide.



Through its Habitat and Highways Campaign, Defenders works with state and local authorities and the public to reduce the impacts of roads on wildlife and habitat by 1) calling for modifications to existing roads where necessary to maintain habitat connectivity and to allow wildlife to cross safely; and 2) ensuring that wildlife conservation and habitat preservation are an integral part of transportation planning. Visit www.defenders.org/habitat/highways, the Habitat and Highways web page, for detailed information on transportation and wildlife.

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Cover photos: Florida panther by U.S. Fish and Wildlife Service. Traffic streaking past bear warning sign by Phil Schermeister/Corbis.

Printed on recycled paper.

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TABLE OF CONTENTS

INTRODUCTION.....	5
I. THE EFFECTS OF HIGHWAYS ON WILDLIFE AND WILDLIFE HABITAT	9
Roadkill	9
Habitat Fragmentation.....	11
Behavioral Changes in Animals	11
Exotic Species Introduction	12
Increased Human Pressure.....	12
Habitat Management Problems	12
Reduced Environmental Quality	14
Urban Sprawl.....	14
Splatter Sprawl.....	15
II. THE TRANSPORTATION PLANNING PROCESS	19
The Roadbuilders	
1. Counties and Cities.....	19
2. Special Authorities.....	20
3. Florida Department of Transportation	20
Local Five-Year FDOT Plans.....	22
What You Can Do.....	23
Tentative Five-Year FDOT Work Programs	25
What You Can Do.....	25
Final Five-Year FDOT Work Program.....	25
What You Can Do.....	26
Project Development and Environmental Study.....	27
What You Can Do.....	28
Right-of-Way Acquisition and Permitting	29
What You Can Do.....	30
Coming Soon: A New Approach.....	31
Literature Cited	32
APPENDIX	
Sources of Information and Assistance	33

INTRODUCTION



CYPRESS SWAMP / CORBIS



When a construction crew lays the pavement for a new or expanded road, it also paves the way for more subdivisions, more shopping centers, more business parks ... and more impacts on our natural places and wildlife. Some of these impacts are as noticeable as the roadside carcass of an animal killed by a vehicle. But the real ecological impacts go largely unseen and reach well beyond the shoulders of the road.

In addition to increasing vehicle-related wildlife mortality, roads destroy, degrade and fragment habitat, present barriers to wildlife movement and serve as corridors for the spread of exotic species and pollution. These and other effects of roads on the environment must be taken into consideration when planning and building roads, and concerned citizens can make sure that they are.

New roads are built only after a lengthy planning process, which includes opportunities for public involvement. By getting involved early in the planning process, citizens can focus planners on the need to preserve our wildlife and habitat and to maintain functional natural areas and livable communities by improving government decisions about road projects.

For example, citizen activists might advocate for routing a new highway away from sensitive natural areas, press for making existing roads more compatible with wildlife, or oppose a new or expanded road altogether if that road will harm wildlife or an important conservation area. And when the required assessment of a project's environmental consequences is released, only the

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public has a right and a responsibility to decide if those consequences are acceptable.

Well-informed citizens are tremendous advocates for wildlife. Savvy citizens can provide the input that nips truly harmful projects in the bud or results in project design improvements that better address the needs of wildlife. The purpose of this booklet is to help you become such a citizen. It begins with a brief explanation of the impacts of roads on wildlife, then outlines the transportation planning and design process and explains how you can participate in it most effectively.

Note: The discussion in this booklet focuses on roads, but the same planning and implementation process is used for transportation projects ranging from bicycle paths to airports, all of which can also impact wildlife and important wildlife habitat.



DEFENDERS OF WILDLIFE

Get involved early in the transportation planning process. Once heavy equipment appears on the scene, it is usually several years too late.

Top Tips for Road Improvement Advocates: Act Early and Know the Facts

1. Get Involved Early

The early bird makes the biggest difference in protecting the worms! Although it takes at least eight to ten years to move a road project from idea to construction, the public often is not aware of a project until the heavy equipment arrives and construction begins. In most cases, this is years too late to bring about any significant change.

The best time to call for changes that protect wildlife and habitat is when a road project is just an idea — before it becomes part of a written Florida Department of Transportation plan. An idea is easily modified, but once it becomes a project described on paper in a formal five-year plan for a county or metropolitan area, it is difficult to stop. Transportation planners, public officials and interest groups have invested time, money and effort in it and are less willing to change it.

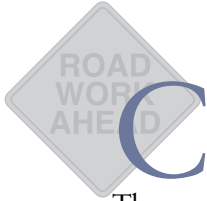
2. Know What You're Talking About

If the first commandment of successful advocacy is getting involved early, then the second is to be armed with facts. Information on the occurrence of endangered or threatened species of plants and animals, wildlife movement corridors, water resources or public lands affected by a transportation project should be considered at the earliest stages of planning and decision-making, and you can make sure that it is. It is difficult to dispute a citizen who can articulate the potential impacts of a road on wildlife and support his or her position with solid natural resource data. The next section of this guide reviews the ecological impacts and gives you an idea of the kind of supporting data needed to make a credible case for your stance. Sources for additional information and assistance are listed in the Appendix.

I. THE EFFECTS OF HIGHWAYS ON WILDLIFE AND



FLORIDA BLACK BEAR/BARRY MANSELL



Can a small, two-lane highway have serious impacts on the environment?

The answer is a resounding yes.

Whether the project is a new

road or an expansion of an exist-

ing one, a country lane or an interstate highway, most roads affect wildlife, wildlife habitat and ecosystems in numerous and significant ways, and the effects are usually permanent. And while most people think only of roadkill when they consider the problems roads pose for wildlife, the effects actually run much deeper (Trombulak and Frissell 2000, Forman et al. 2003).

Biologists have defined a “road-effect zone,” which includes the road and any surrounding area ecologically impacted by that road. The public road system in the United States is almost 10 million miles long and is used by 200 million vehicles. A conservative estimate shows that approximately one-fifth of all the land in the United States falls within the road-effect zone of that system (Forman 2000). A conservative estimate for Florida, based on a 1998 figure of 115,415 miles of roads statewide, shows that 27 percent of Florida’s land area is affected by roads.

Some of the common ecological impacts observed within a road-effect zone are summarized below.

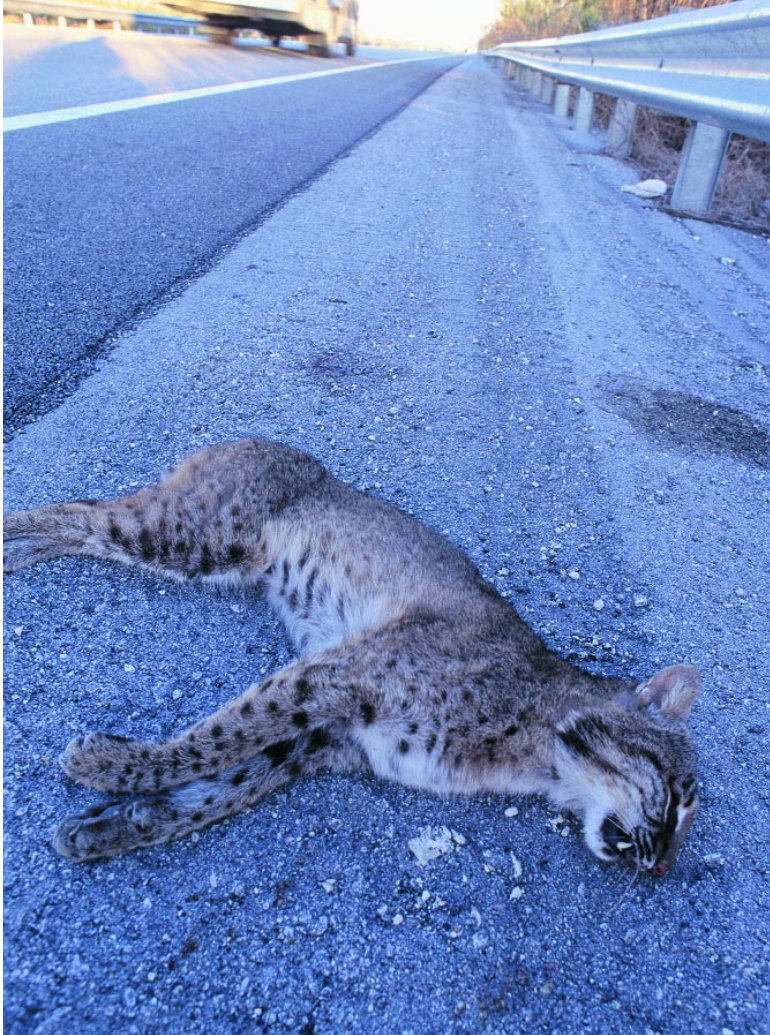
Roadkill

The Humane Society estimates that 1 million animals are killed every day on our nation’s roads. Almost no species of terrestrial wildlife is safe, and some species are particularly vulnerable. Vehicles on roads kill indiscriminately, without regard for age,

BEAR AND TIRE TRACKS/DEFENDERS OF WILDLIFE



sex, rarity of the species or health of the individual animal. Animals that roam over large tracts of land and must cross many highways in their search for food or mates are especially vulnerable to collisions with vehicles. Among such vulnerable species are the endangered Florida panther and the Florida black bear, an animal on the state list of threatened species.



ROAD-KILLED BOBCAT BY GARY BRAASCH/CORBIS

Habitat Fragmentation

Expanding networks of roads force wildlife to live on ever-shrinking islands of habitat where it is more difficult for them to find food, water, shelter and mates. Fragmentation leads to genetic problems such as inbreeding and increases exposure and susceptibility to catastrophic events such as disease or hurricanes. The inevitable result is fragmented habitat, which can lead to smaller populations of wildlife and increase the likelihood of populations or species becoming extinct.

Fragmentation also increases the ratio of edge habitat to interior habitat, which is harmful to forest-dwelling birds and other interior species. Interior habitat has a distinct microclimate and supports species that tend to be more sensitive than those that favor edge habitat. Aggressive birds such as the blue jay, a known predator of eggs and small birds, and the brown-headed cowbird, a notorious brood parasite, do well in the forest edge habitat associated with roads. Snakes, raccoons and other predators that hunt along edges also thrive in roaded areas. Species that occur only within the interior of forests, such as the ovenbird, scarlet tanager, hooded warbler and a number of other migratory songbirds, cannot withstand the predation or compete against the more aggressive edge species. As their habitat decreases they die out, reducing biodiversity.

Roads interrupt the movement from one habitat to another that some species must make to complete their life cycles, too. For example, roads can separate the wetland breeding areas used by turtles from the drier upland areas where they bury their eggs.

Behavioral Changes in Animals

Roads alter the natural behavior of animals in terms of home ranges, patterns of movement, reproductive success and escape response. Some species prefer habitat with fewer roads, and some species avoid roaded areas altogether.

Bald eagles, for example, prefer to nest away from roads. When they do nest near roads, their productivity declines. In Florida, the death rate for breeding Florida scrub jays is significantly higher for breeders near roads than for breeders farther away from roads. The higher mortality rate on roadside territories is a direct result of the automobile traffic itself, rather than ecological changes caused by the road (Mumme et al. 2000).

Exotic Species Introduction

Roads spread exotic species of plants and animals that compete with native species. Exotic plants thrive in the disturbed habitats alongside new roads. From there they spread into native habitats and stopping them requires a considerable investment of time and money. In the past, exotic species such as cogongrass, vetiver grass and kudzu have been introduced to roadsides to control erosion, and their uncontrolled growth has caused severe ecological problems. Roadsides are favorable habitat for the exotic feral pig, which wreaks havoc on adjacent natural areas. This prolific and aggressive animal disturbs plant communities, preys on native wildlife and competes with native species for limited resources.

Increased Human Pressure

New roads make remote areas accessible to people, who change the ecology through recreation, extraction of natural resources or development and other permanent changes to the land. Greater human visitation leads to increased disturbance of animals, whether intentional or unintentional.

Habitat Management Problems

Roads disrupt the hydrology of an area and cause other problems for the managers of wildlife habitats. For example, new or expanded roads make it increasingly difficult for Florida land



Structural Solutions

What about existing roads that cause problems for wildlife? In some circumstances, roads can be made more wildlife-friendly by building a land bridge, such as the one in Canada's Banff National Park pictured above, by adding an underpass or overpass (to move cars above or below wildlife), or by extending a bridge to include room for animals to cross beneath. Structural solutions work best for species with defined movement corridors or predictable movement patterns (such as species that migrate, or those that frequently travel along the same route). It is not possible to engineer our way out of all or even most impacts roads have on wildlife, but sometimes structural solutions can be effective.

managers to carry out prescribed burns, which are crucial to restoring and maintaining habitat in ideal condition for wildlife, because smoke is a safety hazard for motorists. As roads hem in a natural area and prescribed fires become a danger, habitat becomes overgrown and less desirable for wildlife, and the land becomes vulnerable to unplanned and catastrophic wildfires caused by lightning.

Reduced Environmental Quality

Roads degrade the habitat through which they run. They increase noise and light pollution, affect the ambient temperature and raise the level of dust. They change soil density and water content and alter patterns of runoff and sedimentation. Runoff and pollution from vehicles traveling on roads adds heavy metals, organic molecules, ozone and nutrients to roadside environments.

Increased temperature is a particularly harmful road effect for certain groups of wildlife. Paved roads absorb and retain more heat than bare soil. Roads collect and store heat during the day and release it at night, creating heat islands to which animals respond. Small birds and snakes, for example, gather on or near warm roads, increasing their risk of being hit by vehicles.

Urban Sprawl

Probably the most insidious effect of poorly planned roads is that they promote urban sprawl. As land becomes more accessible, it becomes more attractive for residential and business use, and the permanent loss of natural lands to development is accelerated.

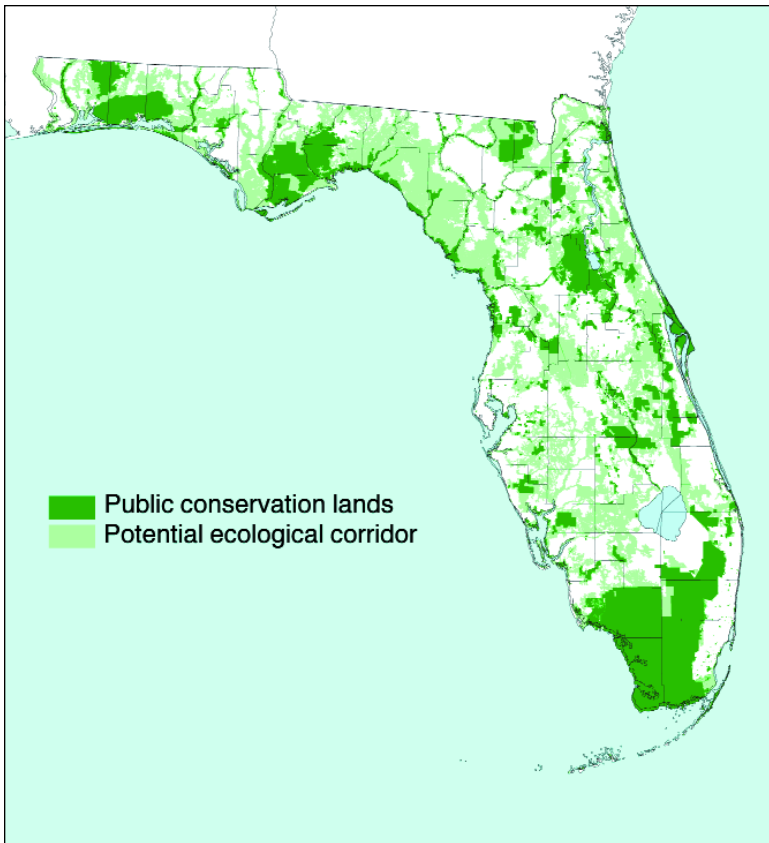
The larger the highway, the more intense and concentrated the development pressure becomes. In 1997, the Center for Urban Transportation Research at the University of South Florida completed a study titled *Economic and Mobility Impacts of the Orlando-Orange County Expressway Authority*. The study found that more than one half of Orange County's real-estate value was within one mile of the expressway system. The study also found that more than 75 percent of new residential units, nearly 80 percent of new commercial space and 64 percent of new industrial space were within this one-mile zone.

This type of intense development permanently destroys vital natural habitat, as well as greenbelts, parks, wildlife sanctuaries and other recreational lands that improve our quality of life.

Splatter Sprawl

Splatter sprawl is another common form of habitat loss facilitated by roads through natural areas. The Ocala National Forest area is an example of this pattern of leapfrog subdivisions and ranchettes that erode habitat and ecosystem integrity and make conservation lands more difficult to manage. A new house or subdivision on the outskirts of a natural area creates the need for urban services; the introduction of urban services brings more development; that new development requires a higher level of services; and a self-perpetuating cycle of development is set in motion.





What Are We Trying to Protect?

Not all land in Florida has equal conservation value. Some areas are not as important to wildlife and can be developed without causing significant harm. Other land is critical habitat for wildlife, or otherwise ecologically significant, and requires the highest level of protection.

The results of several statewide comprehensive analyses indicate that in addition to the approximately 26 percent of Florida's land area currently in public ownership (see map above), another 10 percent of privately held lands must be

protected to conserve all of Florida's native plants and animals and natural community types. Together these lands form an ecological network, the green infrastructure that must be protected when planning our roads and other "gray infrastructure."

Knowing which lands are ecologically important is of great importance to conservation groups and citizen advocates who want to choose their battles carefully. You should definitely get involved whenever transportation projects threaten important natural resource lands such as:

- National wildlife refuges, preserves, forests, parks and seashores.
- State parks, preserves, reserves, forests and recreation areas.
- Wildlife management areas, aquatic preserves, marine protected areas and other conservation areas listed by the Florida Fish and Wildlife Conservation Commission (FWC).
- Strategic Habitat Conservation Areas and Biodiversity Hotspots, as defined by FWC.
- Florida Ecological Network lands as identified by the University of Florida.
- Conservation Needs Assessment lands, as defined by the Florida Natural Areas Inventory.

Defenders of Wildlife, for example, advocates a policy of avoid, minimize and mitigate for transportation projects impacting these lands. This means road projects should avoid significant habitat areas whenever possible. Where this is not possible, projects should be planned and built in such a way as to minimize their impact. When the loss of habitat is unavoidable, compensation should be made through the permanent protection or restoration of biologically valuable habitat elsewhere in Florida.

II. THE TRANSPORTATION PLANNING PROCESS

WHITE PELICANS, J. N. "DING" DARLING NATIONAL WILDLIFE REFUGE BY GEORGE GENTRY, USFWS





ROAD
WORK
AHEAD

In Florida, three different entities can build roads: counties or cities using local money; special authorities using revenue from tolls and from the sale of bonds; and the Florida Department of Transportation (FDOT), which cooperates with local governments on projects that use state and federal money. We will briefly discuss the first two entities, but the bulk of this section will be devoted to FDOT projects, which are the most prevalent. In each case, we will describe the planning process, what you can do to most effectively take part and when to do it.

The Road Builders

1. Counties and Cities

County or city transportation projects are built by an individual county or city, using only local money. Since no state or federal funds are involved, each county or city commission may set its own procedure for planning and construction.

Typically, there are three things you can do at the county level:

- Cultivate relationships with your county commissioners and educate them about significant natural areas that should be protected from new roads and expansion projects. Get in touch with them as soon as possible when potentially harmful projects are proposed.
- Monitor the annual revision to the county's capital improvement program and participate in annual public workshops and public hearings.
- Participate in the periodic (every five to seven years in

Florida) update of the county's comprehensive plan. The comprehensive plan covers a 20-year period and guides how the county will grow, how land will be used and how resources will be protected. It includes a transportation component, which is the county's vision for its transportation system.

Consider serving on the citizen advisory committee working on the transportation vision for your county. Being part of this group is an ideal opportunity to network with staff and to learn about local transportation issues and help guide planning.

2. Special Authorities

Special authorities, such as bridge or expressway authorities, are created by the state legislature. These organizations operate outside the usual transportation planning structure and often are created to build a particular bridge or highway system when it appears that the Department of Transportation can't build the project as quickly as desired, or when a politician wants a particular transportation project to move forward, even though that project might not make the cut in the normal planning process.

The Orlando-Orange County Expressway Authority, for example, was created to develop infrastructure in central Florida because it could build expressways faster than FDOT could. Special authorities sell bonds to pay for their roads and bridges and charge tolls to users to generate funds to repay the bonds.

Toll roads attract intense development that radiates out from interchanges, so it is critical to route toll roads away from ecologically sensitive areas. To make sure this is done, monitor any special authorities in your area and participate in their decision-making processes.

3. Florida Department of Transportation (FDOT)

When state or federal money is involved (as it usually is), transportation planning becomes an elaborate process involving numerous government agencies at all levels. FDOT is the main

player in this process, because it is the agency that awards and administers the contracts for the design and building of most of the transportation projects in the state. But to an extent that may surprise newcomers to transportation planning, local government agencies lead the transportation planning process.

Most transportation projects are conceived at the local level, where either boards of county commissioners or metropolitan planning organizations (MPOs) make two critical decisions: what projects will get built and in what order. Local governments make these decisions in the context of short-term and long-term transportation plans. Short-term plans are updated every year and submitted to FDOT for inclusion in the state's road building plans.

FDOT follows the local lead, but is consulted at every step. The governor's office, various other state agencies and the state legislature, which provides funding and therefore wields tremendous power, are also consulted. This elaborate process offers many chances for input from the public.



FLORIDA SCRUB JAY/DEFENDERS OF WILDLIFE

Local Five-Year FDOT Plans

The heart of transportation planning is the five-year plan, because it contains the list of projects approved for implementation by local officials. Five-year plans are updated annually and always project forward to cover the next five years.

In rural counties, the board of county commissioners must approve a prioritized list of projects each year. This list, often called the Transportation Work Program (TWP), shows what projects will be built over the following five years and in what order. Each year the plan is revised by removing the first year's list of projects (which now should be completed) from the TWP and adding a new list in the fifth-year slot. Counties prepare transportation plans at the same time they prepare budgets and set taxes, from June to September. Around August, each board of county commissioners holds a public workshop to solicit public comment before officially adopting the new TWP and submitting it to FDOT.

Urban areas with populations of 50,000 or more and a density of 1,000 people per square mile are required by federal law to have a metropolitan planning organization (MPO). MPOs can represent an urban area within a county, the entire county or more than one county. They are governed by a board made up of elected officials from the cities and counties within their jurisdiction. Each MPO produces a five-year plan in the same manner as a smaller county. MPO plans, which are called Transportation Improvement Programs (TIPs), are forwarded to FDOT for implementation.

Counties and MPOs also produce cost-feasible, long-term (20-year) plans that include approved projects and may also include a wish list of projects that have been discussed but not approved. To be built, a project must be included in both the five-year and 20-year plans and added to FDOT's Five-Year Work Program.

What You Can Do



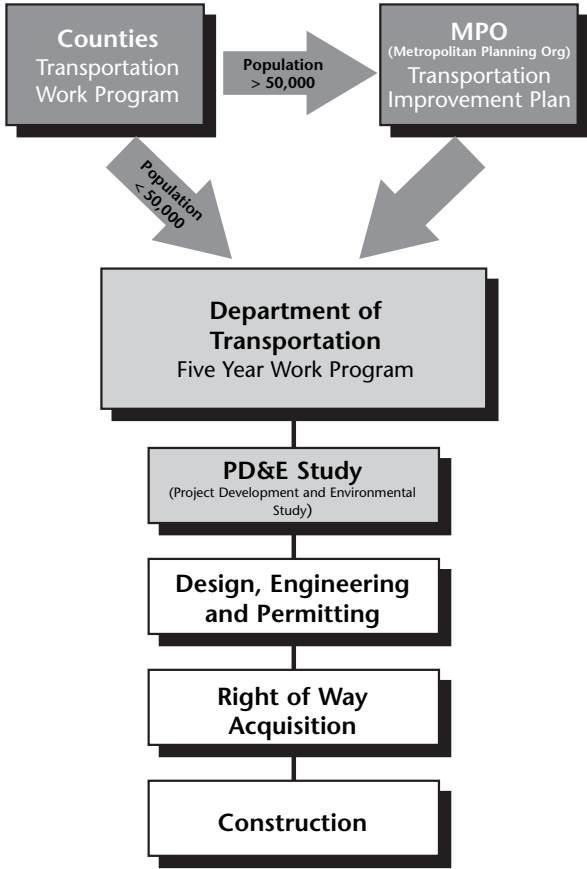
The public workshops held in conjunction with the annual review and revision of local five-year plans, are ideal venues for voicing your concerns about transportation projects while they are still just ideas and can be easily changed.

If you live in a rural area, contact your county board of commissioners for information about local five-year plans, draft materials and workshops. If you live in a rural area, get in touch with your local MPO.

To locate your MPO, call the Florida Metropolitan Planning Organization Advisory Council, (866) 374-3368, ext. 4037 or (850) 414-4037, or visit their website, <http://www.mpoac.org>.) MPOs are an excellent source of information about all transportation improvements planned for the region. Each MPO has monthly meetings of its board of directors, technical advisory committee (professional staff from the county and larger municipalities) and its citizen advisory council, all of which are open to the public.

To prepare for a public workshop, obtain the necessary materials and carefully study each suggested alternative for any given project. Gather as much factual information as possible and use it to support your position on a project. When stating your case at the workshop, data on natural resources, such as wildlife use of an area and the presence and abundance of endangered or threatened species, will be more persuasive and credible than an unsupported negative opinion of a project. Similarly, enumerating specific concerns and providing explicit suggestions for improving a project are likely to be better received than a general statement of opposition.

State Transportation Project Development



■ Citizen participation most effective ■ Citizen participation effective □ Citizen participation much less effective

Road projects are best addressed before or during the Project Development and Environmental Study stage.

Tentative FDOT Five-Year Work Programs

After a county or MPO has completed the annual update of its five-year plan, that plan is sent along to one of the seven FDOT district offices. The FDOT district office then evaluates all the local plans within its jurisdiction, considering available state and federal money, production constraints and consistency with the Florida Transportation Plan. (The Florida Transportation Plan is a long-term outlook for transportation throughout the state. It deals with policies, goals and strategies, rather than with specific projects.) FDOT tries to fund projects in the order requested by an MPO or county. The priority projects are added to each district's Tentative Five-Year Work Program as the new fifth-year project list. Like the county and MPO plans, these tentative plans encompass all types of transportation, from road and mass transit projects to airports, seaports, bicycle paths and pedestrian trails.

What You Can Do



If your concerns are not handled satisfactorily at the local or MPO level, you can raise them again during the FDOT Tentative Work Plan public hearings. The FDOT hearings are held after the county and MPO public hearing, usually in August or September. The difficulty is that FDOT is an implementation agency, trying to carry out the orders given to it by the counties and MPOs within its jurisdiction. As a rule, it is more effective to lobby the county or MPO than FDOT.

Final Five-Year FDOT Work Program

The tentative five-year plans produced by the FDOT district offices must make a long journey through Tallahassee before they can become final. The tentative plans are reviewed by the general public at a statewide FDOT public hearing, by the governor's



office, by the Department of Community Affairs, the Florida Transportation Commission (a DOT oversight agency) and by the Florida legislature. At the end of this process, the legislature must pass an appropriations bill to fund the work program. Based on the actual appropriations, the FDOT district offices and the MPOs and counties adjust their tentative plans to match the funding provided. The revised five-year plans are then officially adopted by the MPOs and counties, and become part of the official FDOT Five-Year Work Program of projects that are funded and ready to be built.

What You Can Do



You can participate in the statewide FDOT public hearing. You can also lobby the Department of Community Affairs, the governor and/or the Florida Transportation Commission, requesting the deletion or modification of projects. Your final opportunity at this stage is to lobby the state legislature before passage of the appropriations bill that will fund FDOT's Five-Year Work Program.

Once a project is listed in the final FDOT Five-Year Work Program, it will be developed and implemented within the individual FDOT district office. Whether the project is building a new road or expanding an existing one, the FDOT district office oversees it through contracting, design and engineering, permitting, acquisition of right-of-way and construction. The counties and MPOs plan and establish project priorities, then FDOT and its consultants and contractors design and build the roads.

Project Development and Environmental Study

The first step of the design process is the Project Development and Environment (PD&E) Study, an information-gathering phase mandated by the National Environmental Policy Act (NEPA). Normally, several alternative designs for a project will be studied, including the option of scrapping the project. Under federal law, this “no build” alternative must be considered seriously along with other choices. Among the environmental concerns that the study will address are wetlands, threatened or endangered species and air and water quality. The PD&E Study also will look at economic feasibility, social impact and impact on historic resources.

All PD&E Studies require a Public Involvement Program to inform and involve all interested public officials, citizens and special-interest groups. The study concludes by identifying the preferred location and design features for the project, or recommending that the project not be built. NEPA requires that impact statements be written for “federal actions” that would significantly affect the environment. Federal actions are any projects that use federal money or require federal permits (such as permits from the U.S. Fish and Wildlife Service or the U.S. Army Corps of Engineers) or projects led by federal agencies. Since virtually every major road project meets at least one of these requirements, state and local agencies routinely prepare impact statements following the NEPA guidelines. Depending on the environmental impacts anticipated, a project’s PD&E Study may range from an uncomplicated Environmental

Analysis (EA), to a comprehensive Environmental Impact Statement (EIS). The lead agency for the project decides on the appropriate form of PD&E Study (Orloff 1978). If the lead agency is FDOT, the Federal Highway Administration (FHWA) must approve the decision about which type of PD&E Study to conduct. FDOT's goal at this stage is to successfully finish the PD&E Study and gain approval from the FHWA to use federal money for completion of the chosen alternative (unless the "no build" alternative is chosen).

What You Can Do



The PD&E phase straddles the boundary between project planning and implementation. All projects within the Five-Year Work Program are on the books as official projects, but the PD&E Study does offer an escape hatch to kill bad projects through adoption of the "no build" alternative. The PD&E Study serves as the final stage of analysis and evaluation, beyond which eventual completion of the project is almost a certainty. The PD&E process is designed to accommodate citizen participation, and your participation can really make a difference.

Environmental considerations are an integral part of this stage, an ideal opportunity to raise relevant wildlife, habitat and ecosystem issues. Carefully study proposed alternatives and consider additional alternatives if none of those proposed seem adequate. Professional scientists will provide information about a project's environmental impact, but it is up to citizens to make the value judgments about what is best for their community and natural resources. This is also a good time to request that your state wildlife agency review the project, since agency staff may be able to provide useful technical information. Involving them before the permitting phase ensures that the project receives their full attention. Comments should be submitted in writing to the regional FDOT office in order to establish standing, should it be needed in a future legal proceeding.

Right-of-Way Acquisition and Permitting

Once a preferred alignment has been chosen, FDOT must acquire the necessary land on which to build. Additional design and engineering work and permit issuance are also completed during this phase.

Roads require permits from various state and federal regulatory agencies. In Florida, the appropriate Water Management District (WMD) must approve plans for stormwater treatment, flood control and wetland impact. In addition, permits may be required from the Florida Fish and Wildlife Conservation Commission (FWC) if endangered and threatened plants and animals and other species of special concern are involved. Also, various cities or counties through which a project runs may require permits. Federal permits are required from the U.S. Army Corps of Engineers if the project involves wetlands, and the U.S. Fish and Wildlife Service if the project involves threatened or endangered species.



BLACK SKIMMERS BY GEORGE GENTRY/USFWS

What You Can Do



If a project makes it through the PD&E process in a form you still find environmentally unacceptable, you can get involved in the permitting phase.

All regulatory permits are obtained during a project's design phase. You can contact the regulatory agencies and alert them to specific environmental concerns. Regulatory staff have an obligation to try to make projects more environmentally sound, and they have authority to request that applicants modify projects. If they recommend approval of a permit for a project that still seems unsound, make your concerns known to the decision-making section of the regulatory agency (for example, the governing board of the relevant Water Management Districts or the head of the U.S. Army Corps of Engineers or U.S. Fish and Wildlife Service).

In Florida, if a permit is granted by a regulatory agency without due consideration of a citizen's concerns, the citizen may file for a Chapter 120 hearing (Administrative Procedures Act), which freezes the project's permit until the issue can be heard and decided by an officer appointed by the Florida Department of Administration. The hearing officer listens to both sides and offers an opinion regarding the project. Although there is no legal requirement to accept the opinion, FDOT usually tries to work out problems identified during the procedure. You can file for a Chapter 120 hearing on any environmental permit or document approved after the planning stage and before construction.

Occasionally projects are delayed for so long that the permits originally obtained in the design phase expire. Reapplication for permits gives you one last chance to participate in the process.

If the avenues described above prove to be dead ends, the only option left is to seek legal recourse through the judicial system. Such lawsuits are expensive in terms of time and money and usually fail to stop a project permanently.

Coming Soon: A New Approach

FDOT is developing a progressive approach to transportation planning that should identify and correct projects with serious environmental problems at the local level, before they ever reach the design or construction phase.

The new approach, scheduled for implementation in 2004, is called the Efficient Transportation Decision Making system — ETDM for short. ETDM evolved from a federal mandate for streamlining the process.

The goal of ETDM is to identify and resolve serious environmental problems before considerable time and money have been invested. It moves agency review and public participation to the earliest stages of planning when projects are still under consideration by an individual county or MPO.

The computerized ETDM system will enable transportation planners to review detailed information about wetlands, endangered species, wildlife-mortality hotspots, inventories of ecologically significant habitat and such social data as distributions of elderly and minority populations. Citizens, too, will be able to go to the ETDM website to access this data and comments from reviewing agencies.

For more information on ETDM, call FDOT's Environmental Management Office, (850) 922-7201, or visit their web site, <http://www.state.fl.us/emo>, which is expected to feature a link to ETDM once this innovative new system is up and running. For updates on the status of ETDM, visit the web page for Defender's Habitat and Highways Campaign, www.defenders.org/habitat/highways.

LITERATURE CITED

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Mumme, Ronald L., S.J. Schoech, G. E. Woolfenden, and J. W. Fitzpatrick. 2000. Life and death in the fast lane: demographic consequences of road mortality in the Florida scrub jay. *Conservation Biology* 14(2)501-512.

Orloff, Neil. 1978. *The Environmental Impact Statement Process: A Guide to Citizen Action*. Information Resource Press, Washington, D.C. 242 pp.

Trombulak, S.C. and C.A. Frissell. 2000. Review of ecological effects of roads on terrestrial and aquatic communities. *Conservation Biology* 14:18-30.

APPENDIX

SOURCES OF INFORMATION AND ASSISTANCE

Florida State Clearinghouse

The Florida State Clearinghouse (clearinghouse) is an excellent place to research a transportation project because it keeps all the comments submitted by affected state agencies on transportation projects. At the start of a project's PD&E Study, FDOT must submit an "Advance Notification Of Intent To Apply For Federal Assistance" to the clearinghouse. The appropriate state agencies then review the project and provide their analyses of potential impacts. The clearinghouse gathers the agency responses and eventually issues a "state clearance letter," indicating that the project is approved for submission to the federal funding agency.

During recent government reorganizations the clearinghouse moved several times. It is currently operated by the Department of Environmental Protection's Florida Coastal Management Program. When the Efficient Transportation Decision Making (ETDM) system is implemented in 2004, the clearinghouse function will shift to FDOT.

Florida State Clearinghouse
Florida Coastal Management Program
3900 Commonwealth Blvd. MS 47
Tallahassee, FL 32399-3000
(850) 245-2161
[http://www.dep.state.fl.us/secretary/legislative/
coastal/state_clearinghouse/index.htm](http://www.dep.state.fl.us/secretary/legislative/coastal/state_clearinghouse/index.htm)

Florida Natural Areas Inventory

The Florida Natural Areas Inventory (FNAI) collects, interprets and disseminates ecological information critical to the conservation of Florida's biological diversity. FNAI maintains a database on rare species and natural communities, which includes an online field guide to rare plants and animals, and employs knowledgeable ecologists who can provide assistance.

Florida Natural Areas Inventory
1018 Thomasville Rd., Suite 200-C
Tallahassee, FL 32303-6374
(850) 224-8207
<http://www.fnai.org/>
<http://www.fnai.org/fieldguide/>

Florida Fish and Wildlife Conservation Commission

Several offices and divisions within the Florida Fish and Wildlife Conservation Commission (FWC) can be helpful. For example, the Office of Environmental Services reviews transportation projects statewide and comments on their impacts to the state's wildlife resources. Biologists within the Bureau of Protected Species Management may be able to provide information on impacts to imperiled species. The Division of Wildlife also manages land, and their field staff may be knowledgeable about impacts on particular areas.

Office of Environmental Services
620 S. Meridian St.
Tallahassee, FL 32399-1600
(850) 488-6661
<http://floridaconservation.org/oes/>

Wildlife and Environmental Services Field Office
29200 Tucker Grade
Punta Gorda, FL 33955
(941) 575-5765

Environmental Services Field Office
255 154th Ave.
Vero Beach, FL 32968-9041
Phone: (561) 778-5094

Bureau of Protected Species Management
620 S. Meridian St.
Tallahassee, FL 32399-1600
(850) 922-4330

Bureau of Wildlife
620 S. Meridian St.
Tallahassee, FL 32399-1600
(850) 488-3831
<http://wld.fwc.state.fl.us/>

Florida Water Management Districts

The Water Management Districts (WMDs) issue permits for the construction of transportation projects after the PD&E Studies are completed. Water Management Districts also manage public lands, and their management staff could be knowledgeable about transportation project impacts, particularly on aquatic resources.

Northwest Florida WMD
81 Water Management Dr.
Havana, FL 32333
(850) 539-5999
<http://sun6.dms.state.fl.us/nwfwmd/>

St. Johns River WMD
P.O. Box 1429
Palatka, FL 32178-1429
(904) 429-4500 or (800) 451-7106
<http://sjr.state.fl.us/>

South Florida WMD
3301 Gun Club Rd.
West Palm Beach, FL 33416-4680
(561) 686-8800 or (800) 432-2045
<http://www.sfwmd.state.fl.us/>

Southwest Florida WMD
2379 Broad St.
Brooksville, FL 34609-6899
(352) 796-7211 or (800) 423-1476
<http://www.swfwmd.state.fl.us/>

Suwannee River WMD
9225 CR 49
Live Oak, FL 32060
(904) 362-1001 or (800) 226-1066
<http://www.srwmd.state.fl.us/>

Florida Department of Environmental Protection

In addition to operating the Florida State Clearinghouse, the Florida Department of Environmental Protection (FDEP) has six regulatory offices in six districts and three land-managing divisions: the Office of Coastal and Aquatic Managed Areas, the Division of State Lands, and the Florida Park Service, which has five regional offices. The FDEP regulatory offices do not issue permits on transportation projects, but do have biologists who may be knowledgeable about an area. Each office also has an

ombudsman, and the land-managing divisions have biologists, and may be able to provide information about the effects of proposed projects near or through parks, reserves, preserves and other state lands. The Division of State Lands handles the state's land acquisition program, and maintains information on natural areas purchased and pending purchase.

Regulatory Offices

Northwest District

160 Government Center

Pensacola, FL 32501-5794

(850) 595-8300, Ombudsman: (850) 595-8300, ext. 1180

Northeast District

7825 Baymeadows Way, Suite 200B

Jacksonville, FL 32256-7590

(904) 807-3300, Ombudsman: (904)807-3300, ext. 3210

Central District

3319 Maguire Blvd., Suite 232

Orlando, FL 32803-3767

(407) 894-7555, Ombudsman: (407) 893-3982

Southwest District

3804 Coconut Palm Dr.

Tampa, FL 33619-8318

(813) 744-6100, Ombudsman: (813) 744-6100, ext.475

South District

(PO Box 2549)

2295 Victoria Ave., Suite 364

Fort Myers, FL 33902-2549

(239) 332-6975, Ombudsman: (239) 332-6975, ext.175

Southeast District
Mailing Address:
PO Box 15425
West Palm Beach, FL 33416-5425
Physical Address:
400 North Congress Ave.
West Palm Beach, FL 33401
(561) 681-6600, Ombudsman: (561) 681-6759

Land-Managing Divisions

Office of Coastal and Aquatic Managed Areas
3900 Commonwealth Blvd.
Mail Station 235
Tallahassee, FL 32399-3000
(850) 488-3456
<http://www.dep.state.fl.us/coastal/>

Division of State Lands
3900 Commonwealth Blvd.
Mail Station 100
Tallahassee, FL 32399-3000
(850) 245-2555
<http://www.dep.state.fl.us/lands/>

Division of Recreation and Parks
Florida State Parks
3900 Commonwealth Blvd.
Mail Station 536
Tallahassee, FL 32399-3000
(850) 488-9872
<http://www.dep.state.fl.us/parks/index.asp>

Regional State Parks Offices

Northwest Region

District 1 Administration
4620 State Park Lane
Panama City, FL 32408
(850) 233-5110

Northeast Region

District 2 Administration
4801 SE 17th St.
Gainesville, FL 32641-9299
(352) 955-2135

Central Region

District 3 Administration
1800 Wekiwa Circle
Apopka, FL 32712
(407) 884-2000

Southwest Region

District 4 Administration
1843 S Tamiami Trail
Osprey, FL 34229
(941) 483-5944

Southeast Region

District 5 Administration
13798 SE Federal Hwy.
Hobe Sound, FL 33455
(772) 546-0900

Florida Division of Forestry

The Division of Forestry, part of the Department of Agriculture and Consumer Services, manages state forests throughout Florida and administers the Florida Plant Conservation Program, a source for information on the state's 55 species of threatened and endangered plants. The division's county foresters and may also have useful data.

Florida Division of Forestry
3125 Conner Blvd.
Tallahassee, FL 32399-1650
<http://www.fl-dof.com/>
http://www.fl-dof.com/Conservation/plant_program.html
(Plant Conservation Program)
<http://www.fl-dof.com/districts/index.html> \\(list of county foresters)

U.S.D.A. Forest Service

The Forest Service manages the Ocala, Osceola, and Apalachicola National Forests. For assistance with transportation projects affecting these forests, ask for the forest biologist.

Apalachicola National Forest
Apalachicola Ranger District
P.O. Box 579
Bristol, FL 32321
(850) 643-2282

Apalachicola National Forest
Wakulla Ranger District
57 Taft Dr.
Crawfordville, FL 32327
(850) 926-3561

Ocala National Forest
Seminole Ranger District
40929 SR 19
Umatilla, FL 32784
(352) 669-3153

Ocala National Forest
Lake George Ranger District
17147 East Hwy. 40
Silver Springs, FL 34488
(352) 625-2520

Osceola National Forest
Osceola Ranger District
P.O. Box 70
Olstee, FL 32072
(386) 752-2577
<http://www.southernregion.fs.fed.us/florida/>

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (FWS) has regulatory authority over endangered and threatened species and keeps information about species status, natural history, habitat needs and recovery plans. FWS also manages 28 national wildlife refuges in Florida and can be of assistance on projects impacting them.

Chief, Division of Endangered Species, Region 4
U.S. Fish and Wildlife Service
1875 Century Blvd., Suite 200
Atlanta, GA 30345
<http://es.southeast.fws.gov/endspec.html>
<http://refugedata.fws.gov/> (for Florida refuge locations)

Florida Department of Community Affairs

Within the Department of Community Affairs, the Division of Community Planning reviews transportation projects for impacts to natural resources and communities and reviews FDOT's Five-Year Work Programs each year before they are sent to the legislature for funding.

Division of Community Planning
2555 Shumard Oak Blvd.
Tallahassee, FL 32399-2100
(850) 487-4545
<http://www.dca.state.fl.us/>

Florida Transportation Commission

The Florida Transportation Commission is a Department of Transportation oversight agency. It provides policy guidance on issues of statewide importance and maintains public accountability for the FDOT. This commission does the annual reviews of FDOT's Five-Year Work Programs before they are sent to the legislature for funding.

Florida Transportation Commission
605 Suwannee St., MS-9
Tallahassee, FL 32399-0450
(850) 414-4105
<http://www.ftc.state.fl.us/>

Florida Department of Transportation

<http://www.dot.state.fl.us/>

FDOT District 1 Secretary
801 N. Broadway St.
Bartow, FL 33830-3809
(863) 519-2300 or (800) 292-3368

FDOT District 2 Secretary
1109 South Marion Ave.
Lake City, FL 32025-5874
(386) 758-3700 or (800) 749-2967

FDOT District 3 Secretary
Hwy. 90 East
Chipley, FL 32428-0607
(850) 638-0250 or (850) 638-0250

FDOT District 4 Secretary
3400 West Commercial Blvd.
Fort Lauderdale, FL 33309
(954) 486-1400 or (866) 336-8435

FDOT District 5 Secretary
719 South Woodland Blvd.
DeLand, FL 32720
(386) 943-5000 or (800) 780-7102

FDOT District 6 Secretary
1000 N.W. 111 Ave.
Miami, FL 33172
(305) 470-5197 or (800) 435-2368

FDOT District 7 Secretary
11201 N. Malcolm McKinley Dr.
Tampa, FL 33612-6403
(813) 975-6000 or (800) 226-7220