

BOARD OF COUNTY COMMISSIONERS

MEMORANDUM

TO: Herbert W.A. Thiele
Leon County Attorney

FROM:  Joe Brown, P.E.
Director, Engineering Services Division
Leon County Public Works Department

CC: File

DATE: June 10, 2010

SUBJECT: Necessity of Property to be Acquired for Buck Lake Road Widening
Project (Davis Drive to Pedrick Road)

I. INTRODUCTION

The following information is submitted for consideration by the Board of County Commissioners ("Board") in approving the Resolution of Necessity for property acquisition associated with the construction of roadway improvements and stormwater management facilities along Buck Lake Road between Davis Drive and Pedrick Road (hereinafter referred to as the "Project"). The Project forms a portion of a larger roadway improvement undertaking for Buck Lake Road extending from Mahan Drive to Pedrick Road. The portion of the Buck Lake Road improvements between Mahan Drive and Davis Drive have already been completed.

In my capacity as Director of the Engineering Services Division, I have knowledge of the factors considered in recommending that the Board: (a) select the alternative for the proposed improvements as set forth in the current construction plans and right of way maps for the project; and (b) authorize eminent domain to acquire the property interests necessary for the public purpose of constructing the Project.

II. PROJECT PURPOSE AND CHRONOLOGY

Buck Lake Road in the Project area is currently a two-lane rural road with approximately 80' of right of way and a swale drainage system. In response to planning studies for the years 2010 and 2020 indicating that Buck Lake Road between Mahan Drive (US 90) and Pedrick Road would be unable to properly serve projected traffic loads, the Board approved the establishment of the Buck Lake Road Corridor Study Project team in 1993. The team produced Corridor Studies by both the Buck Lake Road Citizen's Advisory Committee (dated August 11, 1994) and by Broward Davis and Associates, Inc. (dated

February 14, 1995). A Memorandum of Understanding was entered into between the Leon County Public Works Department and the Citizen's Advisory Committee, which was approved by the Board on September 12, 1995. The Memorandum of Understanding included a recommendation that the Project area which is the subject of this memorandum (Davis Drive to Pedrick Road) be improved primarily within the existing right of way, with minimal additional right of way to be acquired on both sides of Buck Lake Road. Additional right of way for stormwater facilities was also contemplated by the Memorandum of Understanding.

III. FIVE (5) NECESSITY FACTOR CONSIDERATIONS

A. ALTERNATE ALIGNMENTS

Alternate alignments, termination points, and parallel routes, as well as other design options, were reviewed as potential solutions to the issues presented by Buck Lake Road in its current configuration. Some options were rejected in the traffic analysis phase of the project. These were either ineffective as projected solutions, or were too costly in terms of community impacts. See Broward Davis and Associates, Inc. Corridor Study, Exhibit Page 27.

Three alternate approaches were initially developed for the larger Mahan Drive to Pedrick Road roadway improvement project, as memorialized in the Buck Lake Road Corridor Study performed by Broward Davis and Associates, Inc., for submittal to the Leon County Board of County Commissioners at the February 14, 1995 Commission Workshop. The alternatives were described as follows:

1. Construct safety improvements within the existing right of way; Acquire new right of way for stormwater management facilities only.

2. Four-lane Buck Lake Road from Mahan Drive (US 90) to Davis Drive with bicycle lanes and sidewalks; two-lane with bicycle lanes and intersection improvements from Davis Drive to Pedrick Road. Right of way acquisition under this scenario would be necessary for expanding the width of the roadway between Mahan Drive and Davis Drive, and for stormwater management facilities.

2a. Same as 2, but with a roundabout to be constructed at the intersection of Buck Lake Road and Pedrick Road, necessitating approximately .6 AC additional right of way acquisition.

3. Four-lane Buck Lake Road from Mahan Drive to Pedrick Road with bicycle lanes and sidewalks. Right of way acquisition under this scenario would be necessary for expanding the width of the roadway between Mahan Drive and Pedrick Road, and for stormwater management facilities.

3a. Same as 3, but with a roundabout to be constructed at the intersection of Buck Lake Road and Pedrick Road, necessitating approximately .6 AC additional right of way acquisition.

Subsequent to the February 14, 1995 Commission Workshop, a swale design was recommended to the Board in place of a curb and gutter system in response to cost factors. The two-lane alternatives (Alternative 1 and Alternative 2 as it applies to the Davis Drive to Pedrick Road Project area) were also revised to include the acquisition of up to four and a half feet on both sides of Buck Lake Road. Accordingly, the alternative emerging from the Board's September 12, 1995 action contemplated the expansion of the Buck Lake Road corridor in the Davis to Pedrick project area from 80' to 89'. As currently designed, a curb and gutter system has been reintroduced to the project. This has permitted the existing right of way lines to be held in the Davis Drive to Pedrick Road project area, with the exception of land needed for stormwater management facilities and various permanent easements and temporary construction easements.

The alternative emerging from the Board's September 12, 1995 action contemplated a roundabout at the intersection of Buck Lake Road and Pedrick Road. However, a detailed analysis of the proposed roundabout by the City of Tallahassee's traffic engineers subsequently determined that the roundabout was technically prohibitive. Accordingly, although the roundabout alternatives were in fact considered, they were ultimately not able to be implemented and the Board of County Commissioners amended the Memorandum of Understanding on February 24, 1998 to reflect this.

As Alternatives 1 and 2, as amended, are effectively the same with respect to the Project area which is the subject of this memorandum (Davis Drive to Pedrick Road), the discussion below will refer only to Alternative 1, as amended, Alternative 3, and the no-build alternative, which was also considered.

B. LONG-RANGE PLANNING

An updated traffic analysis has since determined that widening Buck Lake Road from Mahan Drive to Davis Drive to four lanes and leaving the Davis Drive to Pedrick Road Project area at two-lanes would be adequate to meet 2010 and 2020 planning needs. From a long-range planning perspective, Alternative 1, as amended, most appropriately meets the current and projected future traffic conditions for Buck Lake Road. The no-build alternative does not address current and future traffic conditions, and Alternative 3 exceeds what is needed in this respect.

C. SAFETY CONSIDERATIONS

The Project area currently experiences a variety of safety deficiencies, when compared to contemporary design standards and specifications. Deficiencies include insufficient sight distance due to curves and vegetation, narrow shoulders and travel lanes, and outdated drainage structures. Taken individually most of these safety deficiencies are not severe and do not create an urgency for remediation. However, collectively they

warrant action. See Broward Davis and Associates, Inc. Corridor Study, Exhibit Pages 1-2. Alternative 1, as amended, was developed to, at a minimum, address these safety concerns. Alternative 3 also addresses existing safety considerations but is not necessarily superior to Alternative 1, as amended, in this regard. The no-build alternative does nothing to address safety concerns.

Alternative 1, as amended, meets current Florida Department of Transportation and Leon County safety and design standards.

D. ENVIRONMENTAL IMPACTS

Alternative 1, as amended, which is to be constructed substantially within existing right of way, creates less new impervious surface and other environmental impacts than Alternative 3. Additionally, Alternative 1, as amended, has been designed with a curb and gutter system to protect environmentally sensitive areas, including Buck Lake. All necessary environmental permits for Alternative 1, as amended, have been received or are reasonably expected.

The residents of the Buck Lake community, as represented by the Citizen's Advisory Committee, expressed a strong desire to maintain the rural village neighborhood quality of the Buck Lake corridor. In keeping with fostering this neighborhood quality, the residents sought enhanced facilities for pedestrian and bicycle use along the corridor, as bicycle lanes and sidewalks do not currently exist in the Project area. These goals were adopted in the Memorandum of Understanding. The no-build alternative does not provide for pedestrian and bicycle facilities.

Alternative 1, as amended, is the preferred alternative from an environmental perspective as it enhances non-motorized mobility within the neighborhood while minimizing additional right of way and stormwater impacts and maintaining the character of the community.

E. COSTS

The least costly alternative is the no-build alternative. Alternative 1, as amended, is significantly less costly than Alternative 3 as it avoids the acquisition of additional lands and construction costs associated with the two extra travel lanes provided for in Alternative 3. See Broward Davis and Associates, Inc. Corridor Study, Exhibit Pages 27-28.

IV. RECOMMENDATION

Alternative 1, as amended, is the least costly alternative that addresses current safety concerns for the Project area, which are the primary motivation for the Project. Alternative 1, as amended, also enhances non-motorized mobility within the Project area, contributing to the Buck Lake community's ability to function as a neighborhood.

Alternative 1, as amended, most appropriately meets the current and projected future traffic conditions for Buck Lake Road.

Baskerville-Donovan, Inc. has generated construction plans for the Project in accordance with Alternative 1, as amended, and in substantial conformity to the design parameters set forth in the Memorandum of Understanding, as amended. The County's Public Works Department has reviewed and accepted the construction plans.

For these reasons, it is recommended that the Board of County Commissioners approve the Resolution of Necessity authorizing the acquisition of the property needed for the public purpose of constructing the Project pursuant to Alternative 1, as amended.

Exhibits:

1. Board of County Commissioners Workshop materials for February 14, 1995, including Citizen's Advisory Committee Final Report – Buck Lake Corridor Study, and Buck Lake Road Corridor Study Public Hearing Exhibits submitted by Broward Davis and Associates, Inc., et al.

**Board of County Commissioners
Workshop**

Workshop for: February 14, 1995

TO: *Honorable Chairman and Members of the Board*

FROM: Parwez Alam, County Administrator
Stephanie Johnson, Assistant County Administrator
Michael C. Willett, Public Works Director

SUBJECT: Buck Lake Road Corridor Study Workshop

Statement of Issue

This Workshop (for information and discussion purposes only) is to present to the Board the Buck Lake Road Citizen's Advisory Committee, Public Works Department and consultant findings on the Buck Lake Road Corridor Study.

Background

On August 31, 1993, the County entered into a contract with Broward Davis and Associates for the purpose of conducting a corridor study on Buck Lake Road between U.S. 90 (Mahan Drive) and Pedrick Road. The 2010 Long Range Transportation Plan indicated that Buck Lake Road may become deficient by the Year 2010 if improvements to the road were not made.

In response to the public's criticism that government does not include citizens in the development of transportation recommendations that substantially impact their community, the Board, in November 1993, approved the use of a new Public Participation Program (called the p2 Program) developed by the Public Works Department. The Board established that the Buck Lake Road Corridor Study would become the pilot project for the County's initiation of this new program.

A critical component of the new p2 Program was the appointment, by the Board, of a Citizen's Advisory Committee (CAC) to work with the Public Works Department and the consultant in developing recommendations for the types of improvements that should take place on the corridor. The CAC was appointed by the Board in December, 1993 and has actively participated in the Corridor Study since that time.

Buck Lake road Corridor Study
Workshop for February 14, 1995
Page 2

The p2 Program also incorporates the concept of "issue groups" (called focus groups for the Orange Avenue Corridor Study). Issue groups are organized and directed by the CAC and provide the general public with the opportunity to volunteer to serve on some aspect of the corridor study. It starts with the CAC, the consultant and the County identifying key issues of the overall study. Like issues are combined into one heading (i.e. stormwater, corridor aesthetic, community vision, etc.) Volunteers sign-up to serve on an issue group. The various issue groups and the CAC then prepare a report called the "Summary of CAC/Citizen's Comments" report. This report is used to help guide the CAC, the County and the consultants in their planning for the corridor and is included in the CAC's Final Report to the Board (Attachment #1).

On February 1, 1995, the last Public Hearing was held for the Buck Lake Road Corridor Study. The CAC organized the meeting, developed the agenda and officiated over the proceedings. Using a "town meeting" format, the CAC presented their findings and recommendations and facilitated the presentation of the consultants findings and recommendations (Attachment #2). Those in attendance were encouraged to actively participate in the open discussion that continued throughout the meeting.

Approximately 70 people attended the Final Public Hearing. A show of hands towards the end of the meeting indicated that a clear majority approved of and endorsed the CAC's recommendations contained in the Memorandum of Understanding.

The Memorandum of Understanding (MOU) is an agreement between the CAC and the Public Works Department that lists the types of transportation corridor improvements the CAC endorses and with which the Public Works Department agrees. The MOU is a primary objective of the p2 Program and which supports the Program's credibility with the CAC. Page 6 of Attachment #1 is the MOU for the Buck Lake Road Corridor Study. Page 12 of Attachment #1 is the MOU's "Signature Page." The Signature Page lists the parties involved in the MOU agreement and will include their signatures at the time of the Workshop. Due to time constraints, the attachment with signatures is not available at the time this is submitted, but will be obtained prior to the workshop.

Analysis

(Prior to reading the Memorandum of Understanding which starts of page 6 of the CAC's Final Report (Attachment #1), please read the preface to the Final Report that addresses an aspect of this project believed to be the prime cause of problems on Buck Lake Road. The recommendations endorsed by the CAC and the County Public Works Department can be found starting on page 6 of the CAC's Final Report.)

The Workshop package contains two attachments which are listed below. Review of both Attachments will give the Board all three (Public Works, CAC and Consultant) perspectives on the project.

- Attachment #1.** Citizen's Advisory Committee Final Report (CAC Final Report); and,
Attachment #2. Broward Davis and Associates "Public Hearing Exhibits."

Since the beginning of the corridor study, there has been strong citizen opposition to four laning Buck Lake Road with a typical 104' highway section. Because of this citizen opposition the Public Works Department, the CAC and the consultants worked hard to develop a compromise solution that would satisfy all parties' concerns and needs. Even though that goal was not fully recognized with the consultants, the results of that work are the recommendations contained in the MOU with the exception of one provision. Called "Provision 1" on page 12A of the CAC's Final Report (Attachment #1), the Public Works Department supports the concept of a dedicated landscape easement.

The Public Works Department will be asking for the Board's formal endorsement of the CAC's Final Report and Provision #1 at a March Commission meeting.

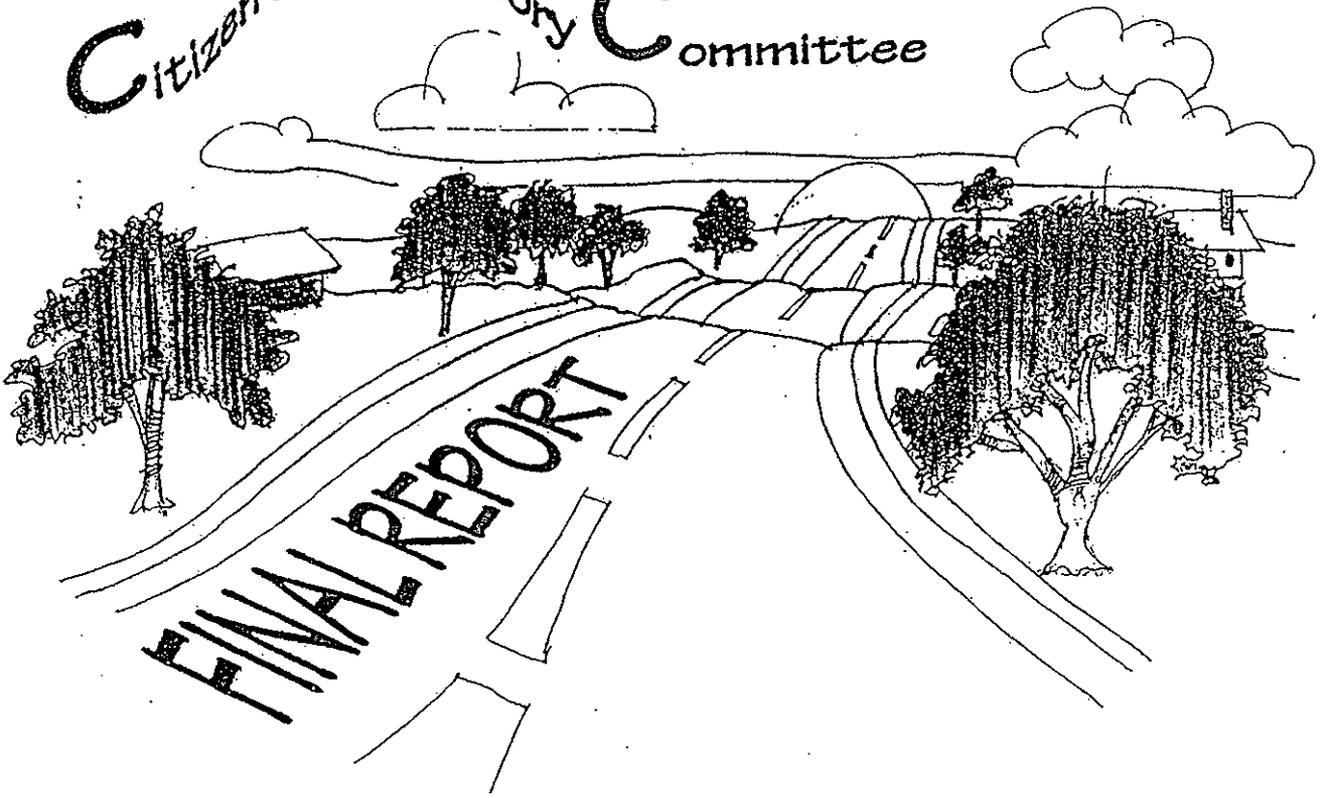
Attachments:

- Attachment #1 - Citizen's Advisory Committee Final Report (CAC Final Report);
Attachment #2 - Broward Davis and Associates "Public Hearing Exhibits."

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Citizen's Advisory Committee



Buck Lake Road Corridor Study

January, 1995

**BUCK LAKE ROAD CORRIDOR STUDY
CITIZEN'S ADVISORY
COMMITTEE**

**FINAL REPORT
and
MEMORANDUM OF UNDERSTANDING**

**To Be Presented To The Leon County Board Of
Commissioners February 14, 1995**

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PREFACE

The Buck Lake Road Citizens Advisory Committee (CAC), County transportation staff and consultants hired to conduct the Buck Lake Road Corridor Study recognize the significance and effect that U.S. 90 (Mahan Drive) improvements will have on people's mobility in the eastern side of Tallahassee. Until the widening of U.S. 90 from Capital Circle to Dempsey Mayo Road occurs, any improvements including intersection improvements designed to improve the level of service of traffic entering onto U.S. 90 will be ineffective.

The Florida Department of Transportation has completed the U.S. 90 Corridor Study. The Study documents the need to widen U.S. 90 to six lanes between Capital Circle and Buck Lake Road and four lanes from Buck Lake Road to Interstate 10. All participants recognize that U.S. 90 is a State owned transportation facility and that improvements to the corridor may not occur until the Florida Department of Transportation includes the project in its Five Year Work Program.

Every effort must be made by the County Commissioners, the Metropolitan Planning Organization (MPO) and the City Commissioners to secure funds for the design, right of way acquisition and construction of this critical portion of the transportation system. Efforts should include advance funding for all or portions of the project.

In consideration of the above, a recommended schedule of improvements to Buck Lake Road is included as Section III of this Final Report.

INTRODUCTION

In November of 1993, the Board of County Commissioners unanimously approved the use of a new and innovative concept for public participation. Called the p2 Program (pronounced P squared), this new process enhances the public's participation in transportation decision-making and establishes a Citizen's Advisory Committee (CAC) which works with County transportation staff and the project's consultants to develop transportation improvements for the corridor being studied. The purpose of the program is to provide more opportunity for Citizens and the County to reach consensual decisions about transportation improvement issues. The ultimate end product is a **"MEMORANDUM OF UNDERSTANDING"** (MOU) between the CAC and the County that lists the type of improvements the CAC endorses.

The Buck Lake Road Corridor Study project team is made up of Leon County transportation staff, the consultants hired to develop the study and the members of the Buck Lake Road Corridor Study Citizen's Advisory Committee (CAC). CAC members include:

Dave Barrett
Joanne Becknell
Byron Block
Patrick Detscher, CAC Chair
Bruce Meintjies
Robert Weinstein, CAC Co-chair

The Buck Lake Road Corridor Study has been a mutually rewarding and thought provoking program. As a precursor to the Orange Avenue Corridor Study, working with the Buck Lake Road CAC and other citizens involved in this new process has provided rich opportunities to improve this new program. The County is very grateful for the time, hard work and dedication the CAC and other citizens have given to the Buck Lake Road Corridor Study process.

The remainder of the Final Report contains the following sections:

Section One - Buck Lake CAC/Leon County MEMORANDUM OF UNDERSTANDING which contains the final set of recommendations for transportation improvements to the Buck Lake Road Corridor from its intersection at Highway 90 (Mahan Drive) east to Pedrick Road.

Section Two - Other Buck Lake Road area transportation issues identified during the CAC's work together.

Section Three - Recommended schedule of improvements to Buck Lake Road.

Section Four - The Buck Lake Community's "Vision" report which includes reports from each CAC Issue Group. This work is the foundation upon which the transportation recommendations found in Section One are based. Also included in Section Four are summary statements of dissenting opinions on the part of residents living in the area.

Buck Lake Road Corridor Map

SECTION ONE

MEMORANDUM OF UNDERSTANDING (MOU)

We, the appointed members of the Citizen's Advisory Committee (CAC) for the Buck Lake Road Corridor Study, having participated fully since February, 1994 in Leon County's new Public Participation Program with both County staff and consultants Broward Davis and Associates and Barr-Dunlop & Associates, do hereby enter into this **MEMORANDUM OF UNDERSTANDING** with Leon County as represented by Ms. Sarah A. Dowlen, Transportation Systems Coordinator and Project Manager.

The CAC recommended transportation improvements are as follows.

Safety Improvements

- Widen travel lanes to 11'-0".
- Maintain existing speed limits.
- Enhance existing street lighting in number and appearance.
- Correct vertical sight distance problems on the corridor.
- Install additional school zone warning signs.
- Design and install a sign welcoming people to the Buck Lake Community. The sign should clearly identify the residential nature of the area and the presence of pedestrians and cyclists.

Traffic Lane Improvements

- Buck Lake Road, at its intersection with U.S. 90, should be designed in accordance with the "1995 Highway Capacity Manual's" level of service criteria for signalized intersections. It is recommended that the intersection be designed so that delay time at this intersection not exceed sixty (60) seconds through the planning horizon of 2020. At a minimum, right of way along Buck Lake Road from the intersection at U.S. 90 to just past the entrance to Fallschase should be purchased so as to allow for, when needed, a five (5) lane typical section with three (3) left hand turn lanes from Buck Lake Road onto U.S. 90. The future five (5) lane facility should be designed with planted medians.
- From the Buckwood entrance to the east, all improvements should be constructed within existing right of way. This section should be a two lane road with 11'-0" lane widths with turn lane/medians for intersections identified later in this report.

- The installation of curb and gutter along the entire corridor is desired for the safety of pedestrians, to avoid disposal of untreated stormwater into Buck Lake, and to insure that all improvements remain within existing right of way to the maximum extent possible.

Intersection Improvements

- U.S. 90/Mahan Drive intersection with Buck Lake Road - Buck Lake Road, at its intersection with U.S. 90, should be designed in accordance with the "1995 Highway Capacity Manual's" level of service criteria for signalized intersections. It is recommended that the intersection be designed so that delay time at this intersection not exceed sixty (60) seconds through the planning horizon of 2020. At a minimum, right of way along Buck Lake Road from the intersection at U.S. 90 to just past the entrance to Fallschase should be purchased so as to allow for, when needed, a five (5) lane typical section with three (3) left hand turn lanes from Buck Lake Road onto U.S. 90. The future five (5) lane facility should be designed with planted medians.
- Buck Lake Road and Fallschase intersection (Refer to Section Two, pages 9 and 10).
- Buck Lake Road and Pedrick Road - Install a round-a-bout designed for traffic calming and maximum pedestrian safety.
- Buckwood entrance - construct left turn lane for east bound traffic.
- Charlais Street - construct left turn lane for east bound traffic.

Bicycle/Pedestrian Facilities

- Install dedicated bike lanes for both east and west bound travel lanes.
- Install sidewalks the entire length of the corridor. If the existing right of way is not adequate to accommodate sidewalks on both sides of the road, then add a sidewalk on one side only.
- Pedestrian crossings along the corridor should be established at each corner and each should be striped and well marked.

Stormwater

- Any stormwater proposal that threatens Buck Lake should be rejected.
- Additional stormwater facilities adjacent to or visible from the corridor should be aesthetically consistent with the design of the corridor.
- Consider the installation of curb and gutter provided it does not harm Buck Lake.
- The stormwater treatment pond at the southeast corner of Buck Lake Road and Pedrick Road should be upgraded for use as an educational public nature park/habitat for children. Efforts should continue with the School Board to implement this provision.

- Stormwater improvements should be designed so as not to cause flooding to private property or exacerbate the problems associated with existing flooding conditions on private property (i.e.: properties south of Buck Lake).

Landscaping and Corridor Aesthetics

- The rural village neighborhood quality of the corridor must be maintained.
- Medians and shoulders should be tastefully landscaped with indigenous hardwoods, flowering trees and low maintenance shrubbery. The long term goal is to create a canopy gateway to the Buck Lake Road community.
- An attractive sign welcoming people to the Buck Lake community should be placed close to the Mahan Drive entrance to the corridor.
- The round-a-bout at Buck Lake Road and Pedrick Road should be a functional part of the community and act as a centerpiece for the area. Landscaping should be in keeping with the corridor's landscaping plan.
- Existing mixed use property, if developed, should be in neo-traditional or village style focused on serving only the Buck Lake neighborhood community.
- Utilities should be installed underground along the Buck Lake Road corridor.

SECTION TWO

OTHER TRANSPORTATION ISSUES

During the course of the CAC's work together, other transportation issues were identified and the CAC feels a need to bring these issues forward for consideration by the County Commission.

- Even though the CAC is strongly opposed to four laning Buck Lake Road from Davis east to Pedrick Road, if year 2020 growth projections become a reality, four laning may need to occur by the year 2020. To plan for this possibility, the CAC supports the early acquisition of right of way for turn lanes and stormwater retention facilities that would support a minimum four lane section within the existing county owned right of way. If growth occurs as the traffic analysis suggests, construction of a minimum four lane facility can occur closer to the year 2020. However, if future four laning is not needed by the year 2020, the County can sell the right of way back to the adjacent home owners. A minimum section is recommended to avoid the excessive taking of private property.
- Buck Lake Road corridor improvement should extend further east past Pedrick Road to include the Sugar Mill, Deerpoint and Avondale communities. These neighborhoods are an integral part of the Buck Lake community. Extension of the recommended corridor improvements to these areas will facilitate work trips and the ability of children to walk or ride their bikes to school.
- A separate study must explore the connection of neighborhoods in the Buck Lake area by non-motorized forms of transportation to reduce traffic on Buck Lake Road and increase the sense of a strong, unified community.
- The abandoned portion of old Buck Lake Road should be refitted to a Park and Ride facility and integrated into the transit development plan.
- With the multi-laning of Mahan Drive from Capital Circle to I-10, traffic controls, enhancements and additions to encourage traffic off Buck Lake Road and onto U.S. 90 should be established.
- Recent information presented by Mr. Blair Bailey concerning the Fallschase commercial and residential development indicates a significant future traffic load entering and exiting the Fallschase property at their current entrance. The volume of traffic from Fallschase added to the expected traffic along Buck Lake Road will lead to congestion levels which may be extremely complex to bring under control. For these reasons, it is the recommendation and desire of the Buck Lake Road CAC

to mitigate this expected congestion by considering one or more of the following options:

1. Requiring Fallschase to design another access point on Buck Lake Road east of the present entrance and/or on Weems Road,
2. Install a traffic signal at the current entrance at Fallschase provided that the operation of it, combined with the signal at Mahan Drive, does not jointly degrade the level of service along Buck Lake Road through this series of intersections.

SECTION THREE

RECOMMENDED SCHEDULE FOR IMPROVEMENTS TO BUCK LAKE ROAD

The following information, taken from Leon County's Capital Improvement Budget, identifies the phased improvements planned for Buck Lake Road. The phasing was designed to be compatible with many of the issues considered by the CAC.

- Fiscal Year 94/95 - Design funds for the entire scope of the project.
- Fiscal Year 95/96 - Right of way acquisition.
- Fiscal Year 96/97 - Construction of safety improvements, Pedrick/Buck Lake round-a-bout and intersection improvements (including the Fallschase intersection), bike/pedestrian facilities, stormwater facilities, landscaping and corridor aesthetics.
- The U.S. 90/Mahan Drive and Buck Lake Road intersection will be programmed to coincide with the construction of U.S. 90/Mahan Drive improvements.

As reflected from the Preface to the CAC Summary Report, these recommendations are time sensitive. A delay in implementation will, most likely, modify the needs and recommendations. Therefore, with the recommendations for improvements we also support strict adherence to the recommended schedule.

SIGNATURE PAGE

The undersigned agree that the issues and improvements stated herein represent the views of the Buck Lake Road Citizen's Advisory Committee who represent the larger Buck Lake community. The Citizen's Advisory Committee enters into this MEMORANDUM OF UNDERSTANDING with Leon County, understanding that the recommendations contained in this Final Report will be implemented, to the maximum extent feasible and in consideration of budgetary constraints, by Leon County.

BUCK LAKE ROAD CITIZENS ADVISORY COMMITTEE:

Patrick Detscher, Chair

David Barrett

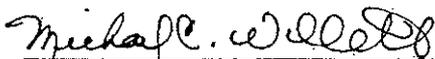
Robert P. Weinstein, Co-Chair

Byron Block

Joanne Becknell

Bruce Meintjies

FOR LEON COUNTY PUBLIC WORKS DEPARTMENT

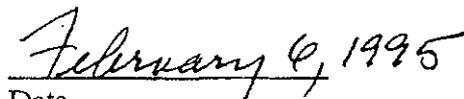


Michael C. Willett, Director of Public Works (Agrees to and supports the MOU with the addition of Provision #1 on page 12A.)



Sarah A. Dowlen, Project Manager

(Agrees to and supports the MOU with the addition of Provision #1 on page 12A.)


Date

Leon County Public Works Department

PROVISION #1 - DEDICATED LANDSCAPE EASEMENT

In addition to supporting the recommendations contained in the Memorandum of Understanding, the Leon County Public Works Department also supports the concept and designation of a "dedicated landscape easement" along both sides of the Buck Lake Road corridor. The actual width will be determined during the engineering design phase of the project.

The dedicated landscape easement will be used for the following two purposes:

1. To provide for the early planting of trees and vegetation along the corridor. If Buck Lake Road needs to be expanded to a four lane facility by the year 2020, the plantings in the dedicated landscape easement will have matured and will provide a green visual and sound barrier between the residents living on Buck Lake Road and the new facility. It will also add to the overall aesthetic quality of the corridor.
2. Sidewalks will be located within the dedicated landscape easement. This will allow the County, if needed by the year 2020, to expand Buck Lake Road to four lanes within the existing County owned right of way of eighty feet (80'-0").

When the dedicated landscape easement is addressed by the consultants hired to carry out the engineering design phase of Buck Lake Road, Leon County Public Works will include the Buck Lake Road Citizen's Advisory Committee (CAC) in the conceptual development of the easement.

SECTION FOUR

CAC'S SUMMARY OF COMMENTS REPORT

BUCK LAKE
CORRIDOR STUDY
AUGUST 11, 1994



SUMMARY OF CAC/CITIZENS COMMENTS:

For the past several months the volunteer Buck Lake Citizen's Advisory Committee has gathered. Discussion of issues surrounding improvements to the Buck Lake Road Corridor have been stimulating and productive. Public Participation was encouraged and recorded.

We have learned of a great reluctance to multi-lane Buck Lake Road. A commitment to maintain and develop the charm and sense of community in the Buck Lake area pervades every meeting.

Community Vision: The committee's vision of this area is focused upon a village concept of the neighborhood with its separate community character anchored by the activity node at or near the intersection of Pedrick and Buck Lake roads. This being the location of its neighborhood schools. The Buck Lake area should be viewed as a complete neighborhood.

Emphasis should be placed upon the ease of commuting to and from this neighborhood to places of work, school and urban services. Vehicular, bicycle and pedestrian connections between the neighborhoods comprising this area are integral. Addressing these concerns should take into account the aesthetics of the corridor as well as other concerns of the homeowners owning property on the roadway as to the impact of any improvements.

Therefore, it is suggested that the separate identity of this neighborhood be emphasized by:

Signs identifying the Buck Lake neighborhood.

Construction of a round-about, to improve the Pedrick and Buck Lake intersection.

Improving roads feeding into the corridor (including Mahan Road) and other corridor intersection improvements.

School and Social Issues: Safety issues around the Buck Lake Elementary School are a concern. With a new middle school on the horizon these concerns are heightened. The recommended road improvements will help with these issues.

Add and upgrade safety signs to foster school zone safety awareness.

Maintain existing speed limits, establish a safe school zone.

Implement "traffic calming" measures with the Pedrick Road intersection redesign.

Design the Pedrick Road round-a-bout to allow safe passage for children.

Construct sidewalks and bike lanes and encourage alternate modes of transportation.

Technical Analysis: The Mahan Drive/Buck Lake Road intersection are of concern for many citizens and this committee. A major traffic flow deficit occurs in this area. The eventual build out of the Fallschase and other subdivisions will make this situation more critical. Several innovative ideas have come from our discussions.

Re-open the former Buck Lake Road entrance to serve as an exit ramp from Mahan Drive, this would allow for more turn lanes onto Mahan Drive.

Evaluate the use of medians to enhance corridor safety.

Landscape areas of the corridor that will be impacted with widening, before construction begins. Mature landscaping will lessen community disruption.

Improve sight-distance factors, however, straightening would harm the rural character of Buck lake Road.

INTER-NEIGHBORHOOD CONNECTIONS, ALTERNATIVE MODES, CORRIDOR AESTHETICS AND STORM WATER ISSUES:

Presently, Buck Lake Road acts as a severe barrier to the many citizens that would enjoy a North-South journey. With rapid growth occurring, the corridor is ripe for the many innovative ideas that have come from our public discussions. Inter-neighborhood connections must originate from the corridor area to be effective. Alternative modes of transportation, specifically bike and pedestrian, will blossom from an improved Buck Lake Road.

Inter-neighborhood connections: With several existing subdivisions primarily "built out" and several in planning or construction stage it would be ideal to connect all internally. This, of course, would require retro-fit as many are without side walk facilities. With an improved Buck Lake corridor, existing subdivisions would be connected.

Construct curb and gutter sidewalk facilities on each side of the corridor.

Construct bike lanes on each side of the corridor.

Extend the corridor East to Rutledge Road to include all the major subdivisions.

Design a round-a-bout at Pedrick Road with serious consideration to pedestrian use.

Install street lights and relocate existing overhead utilities underground.

Alternative Modes: With pedestrian and bike lane facilities, alternate modes of transport would occur naturally. Linking Buck Lake Road to bike lane and greenway initiatives to the West and South-West would give citizens a wonderful passage to local businesses and parks. Done thoughtfully, a generation of citizens less reliant on the automobile could emerge.

Consult with City bike trail staff regarding future initiatives.

Design Pedrick and Mahan Road intersections to accommodate pedestrian and bike traffic.

Corridor Aesthetics: With improvement comes change, it is obvious from our public discussions that folks enjoy the charm of Buck lake Road. There is a balance to be struck between improvements and preserving the character of Buck Lake Road.

Pre-plant areas of the corridor that will be subject to landscape degradation.

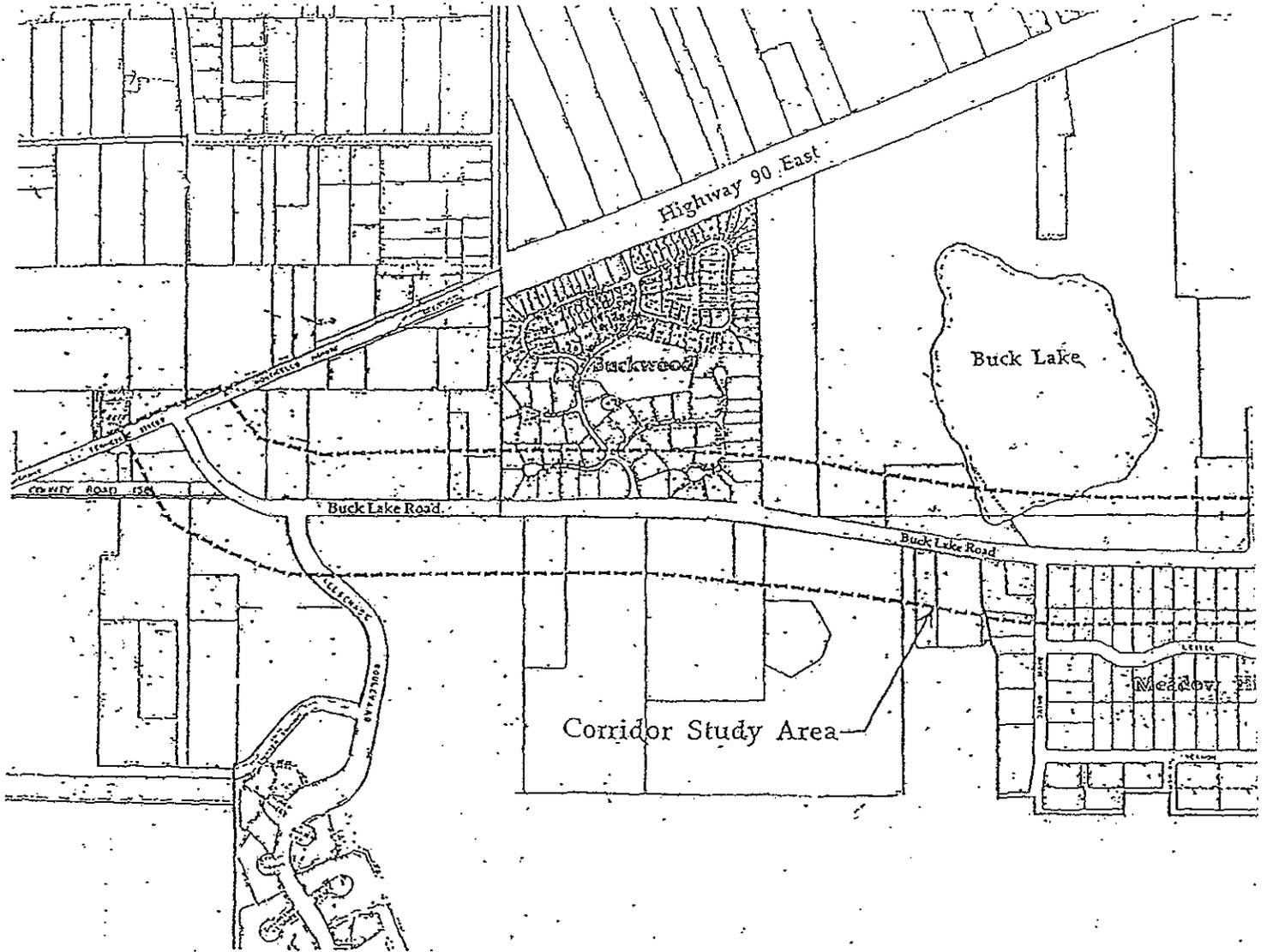
Improve the Mahan/Buck Lake intersection to give it a community image.

Landscape the Pedrick round-a-bout to give it a village center appeal.

Storm Water Issues: The areas most impacted from storm water will be the intersection improvements at Mahan and Pedrick Roads. The Pedrick Road intersection situated in a low area is most sensitive.

Work with Buck Lake Elementary and landowners to determine plans for wetland area.

Improve drainage through curb and gutter, sidewalk design.



Buck Lake Road Corridor Study

Public Hearing Exhibits

for

*Leon County Board of County Commissioners
Commission Workshop*

14 February 1995

Submitted by

Broward Davis and Associates, Inc.

Barr, Dunlop & Associates, Inc.

and

Smith Gilchrist, PA

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Corridor Analysis [VI; A.]

Establish Need for Improvements [VI; A.1.]

The defined *study corridor* for the Buck Lake Road Corridor Study is from US 90 to Pedrick Road; the *study area* is bounded by US 90, Interstate 10, Chaires Cross Road, and Lake Lafayette. Some of the needed improvements are outside the study corridor, but, because they affect conditions or improve operations within the corridor, they are mentioned in this study. Based on the study findings in the *Traffic Analysis* and *Engineering and Environmental Analysis* sections, safety, drainage, and capacity improvements are needed, or will be needed within the study period 1994-2020.

The improvements suggested by this study were developed as a series of alternatives, ranging from low-cost, short-term safety improvements, to multiple-lane capacity improvements. The alternatives mentioned in the following section are described fully in a later section of this study. They are noted here to link the alternatives to the following needs analysis.

Safety

Because the roadway was originally built as a rural farm-to-market road, it has numerous safety deficiencies, when compared to contemporary design standards and specifications:

- The existing pavement width is 20 feet, with 10 foot driving lanes;
- Existing vertical curves in several locations do not provide sufficient stopping sight distance;
- Existing horizontal curves in several locations do not provide adequate sight distance due to vegetation within the right-of-way;
- Existing intersection sight distance is deficient at several locations, also due to vegetation within the right-of-way;
- Pavement directional markings at the Buck Lake Road/US 90 intersection are deficient and the pavement striping along the study corridor has deteriorated sufficiently to warrant replacement;
- Passing sight distance is marginal in several locations, while passing is not recommended in other locations; no safe location exists along the study corridor for passing at or above the posted speed limits;
- Numerous driveways exit onto the roadway from residential properties in locations where a backing maneuver would be dangerous; neither the driver of the backing vehicle entering the roadway, nor the drivers of oncoming vehicles, have adequate visibility for this maneuver to occur safely;
- The shoulder grades do not match the edge of pavement grades in numerous locations along the study corridor, and rural mail delivery tends to exasperbate this problem;

- Shoulder widths do not meet contemporary standards;
- The roadway should have guardrails in two locations adjacent to roadside hazards at Buck Lake and at the Leon County-owned parcel just east of Highland Drive; and,
- Drainage structures adjacent to the roadway do not meet contemporary design standards for safety.

In addition, several other safety deficiencies, within the study corridor or immediately outside the corridor, affect the safe operation of the roadway:

- No sidewalks or bicycle lanes currently exist along the study corridor and bicyclists and pedestrians must use the roadway itself or the shoulder;
- No facilities exist to serve bicyclists and pedestrians at the intersection of Buck Lake Road and Pedrick Road, in a location adjacent to an elementary school and within walking distance of a new middle school;
- The 1994 storm events indicate a need to improve drainage at Buck Lake and at the Alford Arm crossing of Buck Lake Road, locations which have caused severe delay during flood events and potentially hazardous conditions.

Taken individually most of these safety deficiencies are not severe and do not create an urgency for remediation, however, when viewed collectively, the potential for County liability for accidents along the corridor appears to warrant remediation of the more serious deficiencies. These findings indicated a need to improve safety along the corridor and this determination drove the development of the first alternative design of this study, *Alternative 1. Safety Improvements*, which will be more fully described later. As a starting point, *Alternative 1* is also the lowest cost option, one which can be pursued in the short term, and one which can be accomplished without the need to acquire additional right-of-way. Therefore, *Alternative 1* could best be described as an improvement of the roadway corridor to meet minimum acceptable contemporary standards.

Operations and Maintenance

Maintenance of the study corridor roadway and right-of-way has apparently been adequate, although minor problems with maintenance noted above have exacerbated some of the safety problems within the corridor:

- Vegetation within the right-of-way limits sight distance at several horizontal curves within the study corridor, and limits sight distance at several intersections;
- Shoulder/pavement edge elevation differences are a hazard that should be corrected; and,
- Pavement striping and signage does not meet contemporary design standards and should be addressed within the annual maintenance program for the roadway.

During the course of this study the first two items were addressed in part: tree trimming for purposes of clearance from electrical wires along the corridor corrected some of the sight distance problems; county crews recently filled some of the road shoulder washouts.

Structural Conditions of the Roadway

A geo-technical survey of the study corridor roadway and right-of-way soil conditions was completed by J & M Testing Lab, Inc., as a part of this study. The investigation consisted of thirty-five borings to five feet deep in the roadway shoulder, and thirty-five SPT (standard penetration test) borings five feet in depth, in the area under the roadway.

Based on the soils analysis, the roadway has no noteworthy structural deficiencies within the study corridor (see also the geotechnical report bound separately, and section *e. Soils*, under section *B. Conceptual Design Analysis*).

Level of Service

Figure DA-1 indicates the standard definitions for levels of service for two-lane roadways. These level of service definitions, and the comprehensive plan designation of level of service for Buck Lake Road, were used to define the capacity limits beyond which improvements to the study corridor must be made.

Figure DA-1
Levels of Service for Two-Lane Roadways
Description of Travel Conditions

Level of Service A

- Highest quality of traffic service.
- Ability to pass to maintain desired speed.
- Almost no platoons of 3 or more vehicles are observed.
- Drivers delayed no more than 30 percent of the time by slow-moving vehicles.

Level of Service B

- Ability to pass needed to maintain desired speeds becomes significant.
- Drivers delayed up to 45 percent of the time.

Level of Service C

- Noticeable increases in platoon formation and numbers of vehicles in platoon.
- Increases in passing impediment.
- Unrestricted passing demand exceeds passing capacity.
- Traffic flow stable, but susceptible to congestion due to turning traffic and slow-moving vehicles.
- Drivers delayed up to 60 percent of the time.

Level of Service D

- Unstable traffic flow.
- Passing becomes extremely difficult.
- Passing demand is high, while passing capacity approaches zero.
- Turning vehicles have major affect on traffic stream.
- Drivers delayed up to 75 percent of the time.

Level of Service E

- Drivers delayed more than 75 percent of the time.
- Passing is virtually impossible.
- Platooning becomes intense when slower vehicles are encountered.

Level of Service F

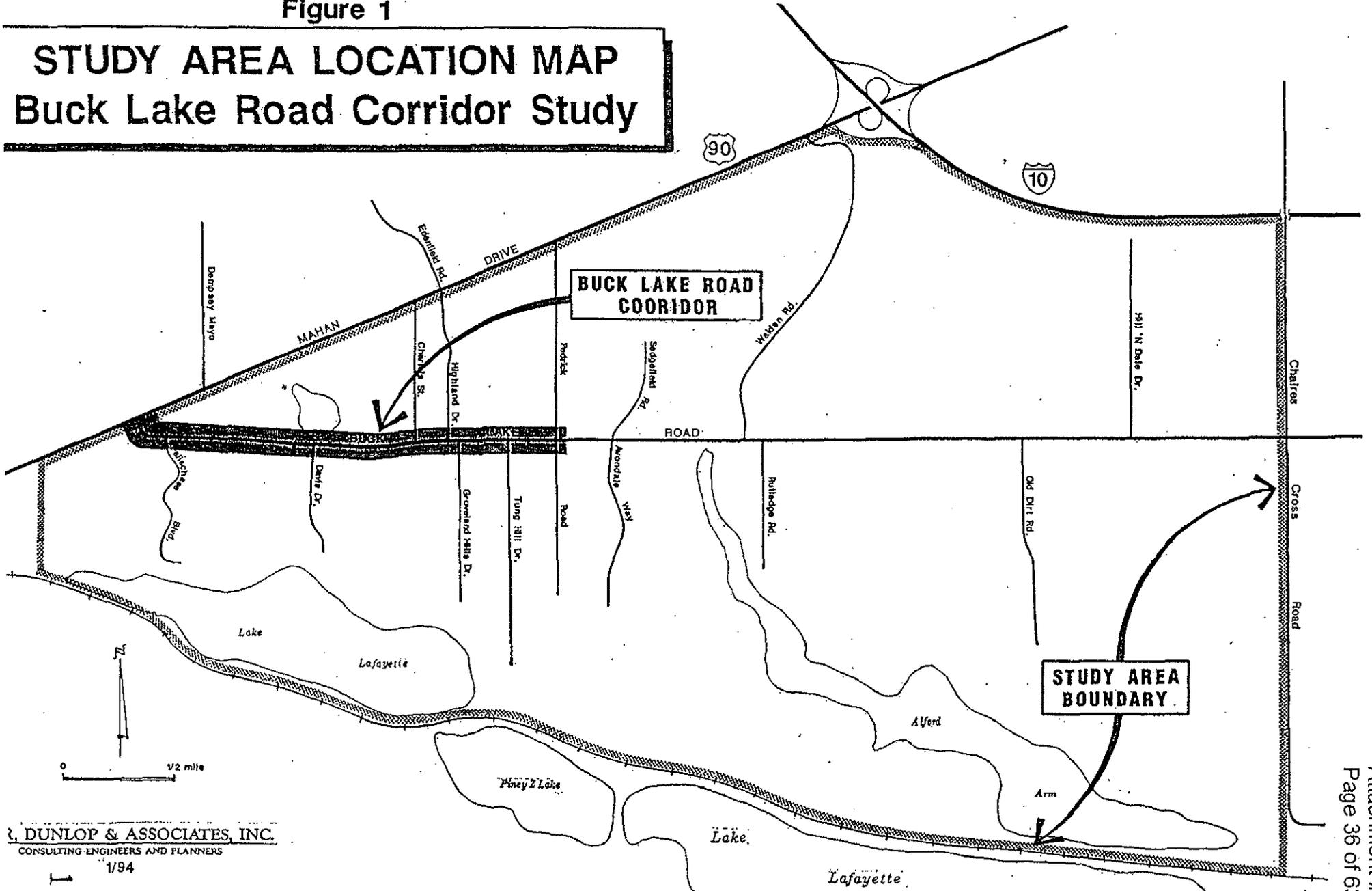
- Heavily congested traffic flow.
- Traffic demand exceeds capacity (breakdown of system).

Source: 1985 Highway Capacity Manual, Transportation Research Board.

Figure 1

STUDY AREA LOCATION MAP

Buck Lake Road Corridor Study



General Design Requirements [VI; A.2.b.]

Review of Typical Section Alternatives

Minimum Right-of-Way Needs

For the purposes of testing the environmental and physical impacts of the future alternatives, the basic multi-lane cross-section for this study was selected by the Leon County Department of Public Works from among the alternative sections submitted by the study team. The section is a four-lane, divided roadway with 11.5 foot wide lanes, 4 foot wide sidewalks, 4 foot wide bicycle lanes, within a total of 104 feet of right-of-way. This section is the cross-section used in the design of the Miccosukee Road improvement project.

This selected cross-section was tested against other alternative sections and was found to most closely match the future design requirements for traffic flow, the design requirements listed within the comprehensive plan, engineering technical specifications, and suggestions made by the Citizens Advisory Committee.

The Citizens Advisory Committee recommended that the proposed future improvements be constructed within the minimum width of right-of-way needed to accommodate the construction (the recommendation was to use the existing 80 foot right-of-way). While a four-lane divided curb and gutter section with bicycle lanes and sidewalks can be constructed within a right-of-way narrower than 104 feet, utility placement would be made more difficult, grade impacts to connecting streets and driveways would be more severe, sidewalks would be placed closer to the street, and excessive costs would be expected for retaining walls and other types of slope stabilization. In addition, as right-of-way width is diminished, it can be expected that the need for, and number and size of additional construction easements would increase. The type of facility would be changed as right-of-way is diminished: from a more rural or suburban facility with a right-of-way of 104 feet, to a more urban facility with the more restrictive right-of-way. Furthermore, the inability to easily accommodate utilities within an extremely narrowed right-of-way may make utility easements outside the purchased right-of-way necessary (this may be especially so with overhead utilities). In addition, the comprehensive plan requirements for landscaped medians, and sidewalks and bicycle lanes, virtually dictate the need for additional right-of-way beyond the 80 feet which exist. The 104 foot right-of-way cross-section was selected to accommodate those design features, and for the purposes of estimating the maximum anticipated impacts to the environment and, additionally, to calculate maximum anticipated costs of construction. Lesser dimensional standards for a number of the features in the typical multi-lane cross-section could be reduced to generate a narrower right-of-way requirement:

Table DA-2
Comparison of Proposed 104 Foot Right-of-Way for Multi-lane Alternatives
Versus Right-of-Way Accommodating Reduced Dimensional Standards

<i>Alternative Design</i>	<i>Behind Sidewalk</i>	<i>Sidewalk</i>	<i>Between Sidewalk and Curb</i>	<i>Curb and Gutter (Typical)</i>	<i>Bicycle Lane</i>	<i>Two Driving Lanes</i>	<i>Median</i>
<i>Proposed 104 Ft. R/W</i>	3.25	4.00	3.50	2.25	4.00	23.00 ⁵	20.00
<i>Reduced Standard 87.75 Ft. R/W</i>	0 ¹	4.00 ²	2.00 ³	2.25	4.00 ⁴	23.00	13.25 ⁶
<i>Reductions of 16.25 Ft.</i>	3.25	0	1.50	0	0	0	6.75

Source: Leon County Department of Public Works cross-section for Miccosukee Road improvements, and Broward Davis and Associates comparison, January 1995.

¹ A reduction of the dimension behind the sidewalk is often made in "urban" sections where the face of commercial buildings or the edge of a parking lot is on the property line. In rural or suburban sections this dimension is often greater than the 3.25 feet in the proposed section. Reduction of this standard would have a severe impact on overhead utility placement and is not recommended for this suburban setting.

² Sidewalk dimensions required by the Americans with Disabilities Act vary from the standard 4 foot width in normal straight line circumstances to a widened 5 foot clearance requirement at intersections and ramps. The minimum 4 foot requirements is indicated here, however the additional width could be accommodated in the 3.25 foot space behind the sidewalk in the proposed section. The reduced section could not accommodate that widening.

³ A reduction of the distance between the sidewalk and the curb is possible, but would effect pedestrian safety and could create a conflict between the dimensions of FDOT Type 1, 2, 3, and 4 curb inlets.

⁴ The 4 foot bicycle lane shown in both sections is the standard dimension indicated by the Miccosukee Road cross-section. Federal standards require a 5 foot dimension when bicycle lanes are adjacent to curb and gutter.

⁵ The standard 12 foot lane has been reduced to 11.5 feet in the Leon County cross-section for Miccosukee Road improvements. A further reduction to 11.0 foot lanes is possible but not recommended here.

⁶ With accommodation of an 11.5 foot wide turning lane and a 4.0 foot wide minimum dimension traffic separator, a 6.75 foot reduction can be made to the median width indicated in the proposed multi-lane cross-section.

To summarize, the 104 foot right-of-way cross-section was chosen to test the maximum impact on the physical environment adjacent to the improvement and to allow estimation of the anticipated high end costs of construction. Further, the proposed cross-section easily accommodates both features of the design required by the comprehensive plan (sidewalks, bicycle lanes, and landscaped median) and overhead and underground utilities. Finally, the proposed cross-section is more in keeping with the stated desires of citizens in the community to protect the suburban nature of the community and adjacent neighborhoods and to allow landscaping and beautification of the corridor. The addition of

landscape easements to the section furthers that goal. This concept is described fully in the next section.

Landscape Easements

Temporary construction easements are often required to construct major roadway, drainage, and utility improvements along such a corridor. These often are considerably outside the limits of the right-of-way proper, often have impacts to vegetation and other physical features such as driveways and fences, and are costly to address in condemnation. Generally, the need for, and size of, construction easements would be expected to increase as the purchased right-of-way width decreases. Impacts to adjacent properties are often similar in either case.

The need for construction easements is not easy to anticipate prior to the development of detailed construction plans. To address this issue and to develop options to address the concerns of citizens within the corridor, the concept of utilizing landscape easements was developed. To minimize the environmental and visual impacts of the proposed cross-section, it is recommended that landscape easement rights outside the 104 foot right-of-way be purchased at the time of acquisition of the additional right-of-way, and that landscape plantings be placed in the easements at that early stage to allow the vegetation to mature prior to construction of the future improvements (see also the landscape recommendations). A wide range of possible program options exist, ranging from public acquisition of the full easement rights to landscape and maintain the landscape within the easement, to donation of landscape materials to property owners with little access and no maintenance responsibilities. All of the options, used to mitigate the acquisition of easements and right-of-way could serve to address the concerns of adjacent property owners about the improvement program.

Figure DA-2 indicates the proposed cross-sections for *Alternatives 1, 2, 2a, 3, and 3a*.

Required Improvements within the Study Period 1994-2020 [VI; A.1.]

Improvement Program Working Assumptions

The project team developed a set of working assumptions which are based upon observations and findings throughout the study, design constraints within the study corridor, the concerns of citizens within the study area, previously programmed and documented but unprogrammed transportation needs in the community, and transportation policy. The three design alternatives, and the options within these alternatives, are based on the following major assumptions:

Present Conditions

- Some safety improvements are needed at present. These relate to roadway width, shoulder width, stopping sight distance, intersection sight distance, and drainage deficiencies.
- Near-term improvements to Buck Lake Road are necessitated by congestion caused by the operation of the US 90 link between Buck Lake Road and Capital Circle, which is over-capacity during both the P.M. and A.M. peaks.
- Intersection improvements at Fallschase Boulevard, Davis Drive, Charlais Street/Meeks Road, and Pedrick Road to facilitate left turns would improve link capacity on Buck Lake Road.
- Improvements to facilitate pedestrian, bicycle, and vehicle access to Buck Lake Elementary School and the new Swift Creek Middle School are needed at the Buck Lake Road/Pedrick Road intersection.

Transportation Related Policy Assumptions

- The present zoning within the study area will remain unchanged throughout the planning period of this corridor study, 1994-2020.
- The study corridor is within the Urban Services Area (USA), as defined in the Tallahassee-Leon County Comprehensive Plan, and no change in the USA boundaries are assumed within the planning period of this corridor study. Because the facility is within the Urban Services Area, improvements to the roadway to meet projected demand are required within the planning period of the comprehensive plan, 1990-2010.
- Although the Tallahassee-Leon Comprehensive Plan indicates an adopted level of service (LOS) of E for Buck Lake Road, because LOS E represent a congested condition, and because LOS D is the usual minimum standard for planning and design of roadway facilities, the proposed alternative designs are based on the provision of LOS D conditions.
- Buck Lake Road is defined as a collector roadway by the 2010 Tallahassee-Leon County Transportation Plan. This definition is not expected to change within the planning period of

this corridor study.

- The year 2005 traffic projections generated by this study are based on the existing plus committed (E+C) network provided by the Tallahassee-Leon County Planning Department. The E+C network accounts for existing roadway facility capacity plus additional capacity to be provided by funded projects (minor revisions were made to zone structure and loading points in the network).
- The 2020 projections generated were based on the 2010 network, also provided by the Tallahassee-Leon County Planning Department. This network represents the approved 2010 Transportation Plan for Tallahassee-Leon County. It includes the six-laning of US 90 from Capital Circle to Buck Lake Road and the four-laning of US 90 from Buck Lake Road to Interstate 10.
- Because traffic conditions along the study corridor are affected by conditions along the US 90 corridor, and because some proposed improvements to Buck Lake Road/US 90 intersection cannot be made without accompanying improvements on US 90, major improvements to the Buck Lake Road/US 90 intersection should be undertaken concurrently with improvements to US 90 between Buck Lake Road and Capital Circle. Improvements to other parts of Buck Lake Road should take place subsequent to the US 90 improvements.

Tallahassee-Leon County Comprehensive Plan Policies

In addition to design elements dictated by the *FDOT Green Book*, and local design specifications and standards, many other design features included in the design alternatives are dictated by policies contained in the comprehensive plan. Objectives and policies contained in the Tallahassee-Leon County Comprehensive Plan related to transportation, conservation, and capital improvements also dictate priority, location, function, funding, and even the design of transportation facilities to be developed in Leon County through the planning period 1990-2010.

Citizen Desires

The Buck Lake Road Citizens Advisory Committee was appointed by the Leon County Board of Commissioners to inform the study team about community values and public opinion relative to observed deficiencies and future needs of Buck Lake Road, and to be kept informed by the study team of the factual and analytical findings of this study. All of their observations, suggestions, and recommendations were thoroughly considered, and many have been incorporated into the alternatives produced in this study. The Buck Lake Road CAC recommended these major design guidelines that were considered in the development of alternatives within this study:

- Congestion problems along the US 90 corridor should be addressed before beginning construction on Buck Lake Road improvements.
- Solutions to congestion other than widening the roadway should be tested.
- Extensive landscaping along the corridor should be included in design alternatives.
- Pedestrian and bicycle users should be accommodated.
- Traffic calming devices should be considered for the Buck Lake Road/Pedrick Road intersection.
- Curb and gutter should be utilized in the design of future alternatives to provide additional safety for pedestrians and to aid stormwater management.
- Signage should be placed at the entrance to Buck Lake Road welcoming people to the Buck Lake community.
- The rural village neighborhood quality of the corridor should be maintained. Existing mixed-use properties should be developed in neo-traditional village style focusing on serving the Buck Lake community only.
- The committee supported the concept of early acquisition of right-of-way for future widening of Buck Lake Road, if projections prove accurate.
- Because recent information indicates the developers of Fallschase may accelerate the continued development and build-out of that development, and because of the potential for dramatic increases in traffic entering and exiting Fallschase, the committee suggested that Fallschase be required to develop an alternate ingress/egress point east of the present entrance (Fallschase Boulevard), or that a traffic signal be installed at Fallschase Boulevard.
- All improvements should be restricted to within the existing 80 foot right-of-way.

1994-2005 Improvement Program Findings and Assumptions

- Traffic projections indicate a need to widen Buck Lake Road to four lanes from US 90 to Davis Drive by 2005.
- Traffic projections also indicate a need to provide turning lanes at major intersections on Buck Lake Road between Davis Drive and Pedrick Road.
- Because two schools will be in operation along the study corridor, and because the comprehensive plan requires that pedestrian and bicycle traffic be accommodated in all new and upgraded roadway designs (Policy 1.8.1., Transportation Element, Tallahassee-Leon County Comprehensive Plan), bicycle lanes and sidewalks (on at least one side of the roadway) should be a part of the proposed designs.
- Since the year 2020 traffic projections also indicate a need to also widen Buck Lake Road from Davis Drive to Pedrick Road, advance acquisition of the right-of-way should be scheduled with the acquisition of needed right-of-way for the US 90 to Davis Drive portion of the improvement program (further Objective 1.3., of the Transportation Element of the comprehensive plan).
- A traffic signal, with pedestrian crossing phase, is needed at the Buck Lake Road/Pedrick Road intersection to provide pedestrian and vehicle access to the schools south of the study corridor.
- A roundabout should be considered as a design alternate for the Buck Lake Road/Pedrick Road intersection. However, pedestrian access and safety should be of paramount concern at this intersection due to the presence of two schools just south of the roadway.
- Landscape designs and advance planting of the right-of-way from US 90 to Pedrick Road to allow enhancement and augmentation of the landscape along the corridor should be a part of the improvement program. The use of landscape easements outside the right-of-way should be investigated.

2005-2020 Improvement Program Findings and Assumptions

- Traffic projections indicate a need to widen Buck Lake Road to four lanes from Davis Drive to Pedrick Road by 2020.
- The design of a roundabout, if constructed as a part of the required year 2005 improvements, should accommodate a four-lane divided section from the west and the existing three-lane sections from the east and south.

These findings and assumptions guided the development of the three basic design alternatives, optional variations of each, and related cost estimates.

Conceptual Design Analysis [VI; B.]

Establish Design Traffic Volumes [VI; B.1.]

Subsequent to the 1990 adoption of the comprehensive plan, and the Leon County Concurrency Management System, the maximum service volumes for county roads were recalculated, based on actual operational characteristics and experience. Table DA-5, below, indicates maximum service volumes for Buck Lake Road, as recalculated. The maximum peak hour/peak direction service volumes for this facility were calculated for this segment of Buck Lake Road, using the FDOT U2LN_TAB, Version 1.0 template, and data observed and collected in the field, and also from data supplied by Leon County. See also *Appendix A, Service Volume Analysis, in Traffic Analysis, in Technical Memorandum No. 1* indicating service volumes calculated on 29 December 1993.

**Table DA-5
Roadway Characteristics and Calculated Maximum Service Volumes
For LOS D & LOS E**

Roadway Segment: <i>Buck Lake Road</i>	Functional Classification				Maximum Service Volume	
	Comp. Plan	Urban/Rural	No. of Lanes ¹		Peak Direction	
					LOS D	LOS E
US 90 to Pedrick Rd.	Major Collector	Urban	2	AM	940	1,400
				PM	990	1,480

Sources: Roadway characteristics from Appendix C, Roadway Characteristics and Maximum Service Volume, in Tallahassee-Leon County Comprehensive Plan Transportation Element Data and Analysis, Volume II, page II-64; Peak Direction Service Volumes from Appendix A, Service Volume Analysis, Traffic Analysis, in Technical Memorandum No. 1.

¹ Buck Lake Road, from US 90 to just east of Fallschase Boulevard is a four-lane divided facility.

The *Traffic Analysis* section of *Technical Memorandum No. 1* describes the existing traffic conditions and projected traffic volume for years 2005 and 2020. These data are summarized in the Table DA-6, on the following page.

Table DA-6
Existing and Projected Daily Traffic Volumes
for Various Locations Along the Study Corridor

		<i>Location of Traffic Counts Along Buck Lake Road, September, 1993¹</i>					
		<i>West of Fallschase Boulevard</i>	<i>West of Buckwood Drive</i>	<i>East of Buckwood Drive</i>	<i>Between Buck Lake Circle and Quail Drive</i>	<i>Between Highland Drive and Groveland Hills Drive</i>	<i>West of Pedrick Road</i>
1993 ²	AM	600	610	640	570	470	480
	PM	570	560	580	510	480	450
2005 ³	AM	1,330	1,140	1,010	940	860	770
	PM	1,260	1,020	900	840	790	750
2020 ⁴	AM	1,870	1,260	1,130	1,040	960	870
	PM	1,790	1,120	1,010	930	890	850
Values in bold type are those which exceed the maximum service volume of the existing roadway at LOS D (AM).							

Source: Barr, Dunlop & Associates, Inc., Figure 8, Figure 19, and Figure 22, in *Traffic Analysis*, in *Technical Memorandum No. 1*, April 1994.

¹ See Figures 6, in *Traffic Analysis*, in *Technical Memorandum No. 1*.

² Existing Peak Hour/Peak Direction Traffic Volumes, September, October, 1993.

³ Projected Peak Hour/Peak Direction Traffic Volumes, for year 2005.

⁴ Projected Peak Hour/Peak Direction Traffic Volumes, for year 2020.

The AM peak hour for this study is 7:00-8:00 AM; the PM peak is 5:00-6:00 PM. Comparison of the calculated AM, peak direction, maximum service volumes for LOS D (Table DA-5) with the existing and projected traffic demand (Table DA-6) indicates a need to program roadway improvements for the segments west of the count station between Buck Lake Circle and Quail Drive by year 2005, and for the segments west of the count station between Highland Drive and Groveland Hills Drive by year 2020 (cells marked in bold type in the table).

Table DA-9
Summary of Design Components for Alternative 1

<i>Alternative 1 Safety Improvements</i>			
<i>No.</i>	<i>Alternative</i>	<i>Components of Design</i>	<i>Timing</i>
1	Safety Improvements (These improvements are needed unless there is a reduction in the speed limit.)	<ul style="list-style-type: none"> ■ Correct vertical sight distance problems by regrading curves at Stations 30+50, 43+50, and 84+75. (Optional, construction and cost may be transferred to Alternative 2.) ■ Correct horizontal sight distance problems by maintaining vegetation within the right-of-way. ■ Correct intersection sight distance problems by maintaining vegetation within the right-of-way. ■ Widen lanes to 11 feet (Optional, construction and cost may be transferred to Alternatives 2 and 3.) ■ (Optional) Add bicycle lanes and sidewalk (requires additional right-of-way, grading, and tree removal; bicycle lanes and sidewalks are not included in the cost estimates for this alternative). ■ Improve drainage along corridor. Acquire two sites for stormwater management facilities, and necessary easements. ■ Install guardrails at two locations adjacent to Buck Lake and the county-owned stormwater management facility. ■ Remove passing opportunities from the study corridor. ■ Correct shoulder/pavement edge elevation differences. ■ Re-stripe and add reflectors to improve night visibility. ■ Re-stripe the Buck Lake Road/Pedrick Road intersection on the western leg to allow for a eastbound left-turn (northbound onto Pedrick Road). 	1995-1996

Source: The alternative designs and timing of alternatives indicated in Tables DA-9, DA-10, and DA-11 were developed by Broward Davis and Associates, Inc., and Barr, Dunlop & Associates, Inc., in response to questions by the Buck Lake Road Citizens Advisory Committee, September 1994.

*Table DA-10
Summary of Design Components for Alternative 2*

<i>Alternative 2 Four-lane from US 90 to Davis Drive/Intersection Improvements from Davis Drive to Pedrick Road</i>			
<i>No.</i>	<i>Alternative</i>	<i>Components of Design</i>	<i>Timing¹</i>
2	Four-lane Buck Lake Road from US 90 to Davis Drive; Two-lane with Turn Lanes from Davis Drive to Pedrick Road	<ul style="list-style-type: none"> ■ Construct four-lane divided section with turn lanes between US 90 and Davis Drive, including reconstruction of existing four-lane section to create five-lane section with median. ■ Construct safety improvements between Davis Drive and Pedrick Road. ■ Construct turn lanes at Buckwood Drive, Charlais Street/Meeks Road, Highland Drive, and Pedrick Road intersections. ■ Acquire additional 12 feet of right-of-way each side of existing right-of-way for future four-laning. ■ Acquire three sites for stormwater management facilities and necessary easements. ■ (Optional) Acquire landscape easements outside of right-of-way, where appropriate, for future use. ■ (Optional) Construct bicycle lanes and sidewalks within the additional right-of-way (Davis Drive to Pedrick Road). 	2005
2a	Alternative 2 with Roundabout at Pedrick Road	<ul style="list-style-type: none"> ■ Add alternate of roundabout at Buck Lake Road/Pedrick Road intersection (additional right-of-way required). ■ Construct additional stormwater management facilities on southeast corner of intersection. 	2005

Source: The alternative designs and timing of alternatives indicated in Tables DA-9, DA-10, and DA-11 were developed by Broward Davis and Associates, Inc., and Barr, Dunlop & Associates, Inc., in response to questions by the Buck Lake Road Citizens Advisory Committee, September 1994.

¹ The timing column displays the dates by which each of the alternatives must be constructed in order to accommodate projected demand (at LOS D).

*Table DA-11
Summary of Design Components for Alternative 3*

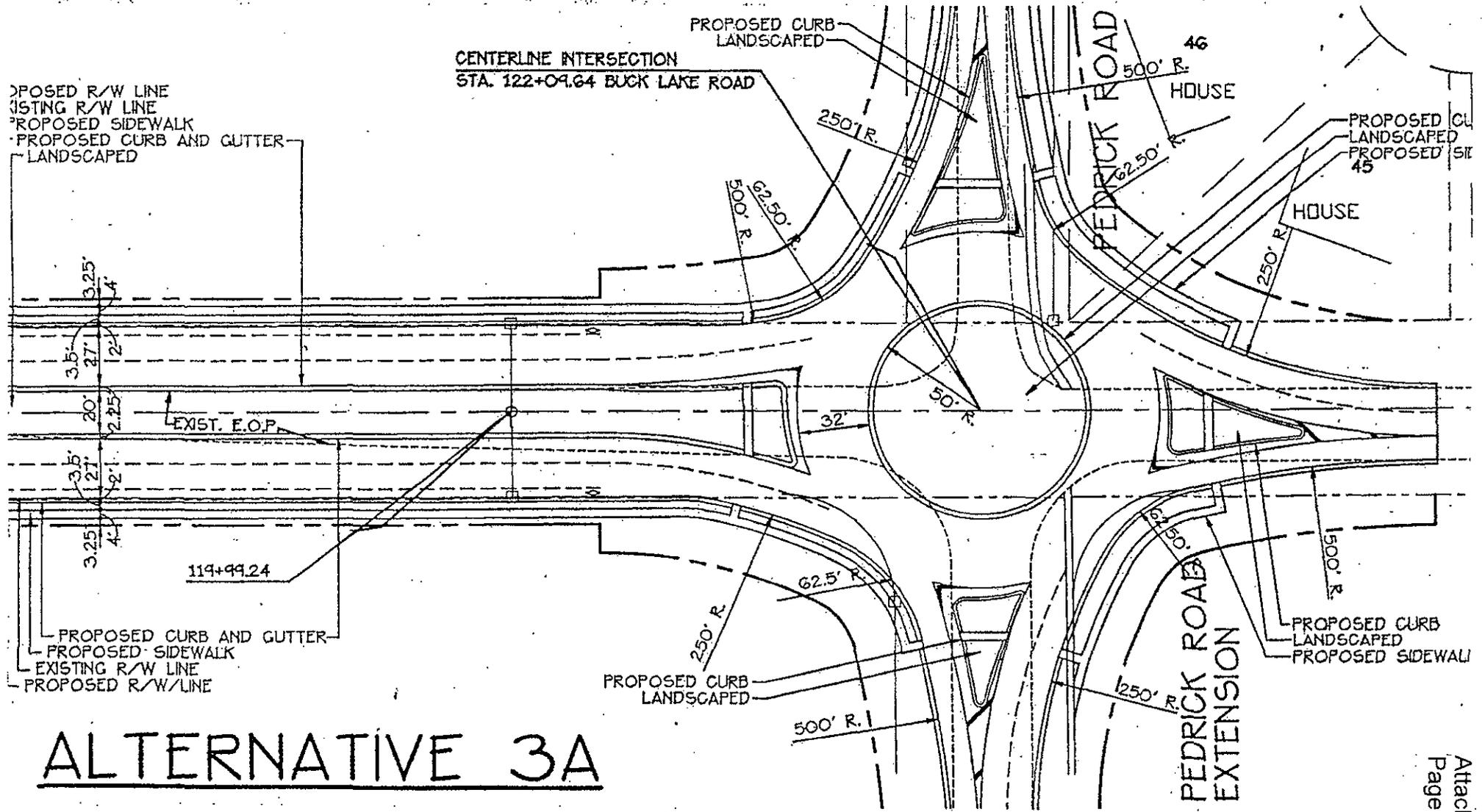
<i>Alternative 3 Four-lane from Davis Drive to Pedrick Road</i>			
<i>No.</i>	<i>Alternative</i>	<i>Components of Design</i>	<i>Timing¹</i>
3	Four-lane from Davis Drive to Pedrick Road	<ul style="list-style-type: none"> ■ Construct four-lane section from Davis Drive to Pedrick Road. 	2020
3a	Alternative 3 with Roundabout at Pedrick Road	<ul style="list-style-type: none"> ■ Add alternate of roundabout at Buck Lake Road/Pedrick Road intersection to match four-lane section on west (additional right-of-way required). ■ Construct additional stormwater mangement facilities on the southeast corner of the intersection. 	2020

Source: The alternative designs and timing of alternatives indicated in Tables DA-9, DA-10, and DA-11 were developed by Broward Davis and Associates, Inc., and Barr, Dunlop & Associates, Inc., in response to questions by the Buck Lake Road Citizens Advisory Committee, September 1994.

¹ The timing column displays the dates by which each of the alternatives must be constructed in order to accomodate projected demand (at LOS D).

PRELIMINARY

SUBJECT TO CHANGE



ALTERNATIVE 3A

Alternative 2a and 3a—Roundabout at the Intersection of Buck Lake Road and Pedrick Road

The study team noted excessive speeds along the corridor and congestion and degraded access to the school located on Pedrick Road (a future middle school will exacerbate the problem). Westbound and northbound left turn lanes exist at the intersection, and the intersection is signalized with an amber/red flashing signal. This signal, and the accompanying school zone warnings are insufficient to slow traffic, and provide no break in traffic to allow access to and from the school during peak periods. Future signalization is warranted and should be programmed.

In response to statements made by the Citizen Advisory Committee, the study team reviewed the design alternatives and recommend the further study and possible implementation of a roundabout at this intersection. Roundabouts provide many benefits, when properly designed, and few obstacles which cannot be overcome with good design. The Australian engineering manual *Guide to Traffic Engineering Practice, Part 6, Roundabouts, 2nd Edition* (AUSTRROADS Publication No. AP-11.6/93, Sydney, Australia, 1993) states some general design and locational guidelines:

Design

A well designed roundabout is a safe and efficient form of intersection control. They have been extensively used in UK and Australia...

Roundabouts reduce the relative speeds of conflicting vehicles and when properly designed involve simple and clear 'right of way' [yield] requirements. This makes the driver's task easier and reduces the complexity and frequency of driver decisions. Roundabouts provide a designed 'hindrance' to all entering drivers, thereby effectively controlling their speed and making it easier for drivers to judge the duration of gaps for a safe entry. Drivers are generally able to anticipate the movement of other vehicles.

For roundabouts to perform effectively, they must be easily identified in the road system, the layout must be apparent to approaching drivers and it must encourage drivers to enter the intersection slowly. Adequate sight distance should be provided to enable drivers to observe the movements of other vehicles, cyclists, and pedestrians.

The safety performance of roundabouts is well proven and in many situations, if designed correctly, can be expected to be better than other forms of channelisation. (*Roundabouts, 1. Introduction*, p. 1.

Safety

The good safety record of properly designed roundabouts can be attributed to the following factors:

- The general reduction in conflicting traffic speeds (limited to less than 50 km/h [US: 31 mph]) passing through the intersection on all legs.
- Elimination of high angles of conflict thereby ensuring low relative speeds between conflicting

vehicles.

- Relative simplicity of decision making at the point of entry.
- On undivided roads, in high speed areas, long splitter islands provide good “advance warning” of the presence of an intersection.
- Splitter islands provide refuge for pedestrians and permit them to cross one direction of traffic at a time.
- Roundabouts always require a “conscious effort” on the part of all drivers passing through the intersection, regardless of whether other vehicles are present or not. (*Roundabouts, 3. Performance of Roundabouts, pps. 16,17.*)

Source: *Guide to Traffic Engineering Practice, Part 6, Roundabouts, 2nd Edition* (AUSTRROADS Publication No. AP-11.6/93, Sydney, Australia, 1993)

The Buck Lake Road Citizens Advisory Committee suggested that a roundabout could provide a safer, more environmentally sound traffic control device, and considerable community amenity. Because the extensive Australian and UK experience with the design and implementation of roundabouts indicates positive results in circumstances similar to the Buck Lake Road/Pedrick Road intersection, it is recommended that the further design study of the concept be pursued in the final design for this location.

Alternatives 2a and 3a were developed to indicate the possible design features of a roundabout at this location as well as the cost of this alternative. The design was a modification of the Australian design guidelines modified to US measures and the right-lane drive standard. A rural design was initially attempted, however, because predicted future conditions more closely resemble urban traffic and design conditions, and, because the long splitter islands of the rural design require additional right-of-way, an urban design was developed for the preliminary engineering plans. The design is for a two-lane roundabout with a 50 foot radius center circle and an outside radius of 82 feet. This would allow large articulated vehicles the ability to use both lanes to traverse the intersection or make “left turns” through the roundabout. This design minimizes the additional right-of-way required, however, the proximity of the required right-of-way to two houses on lots 45 and 46 in Sugar Mill Plantation and the proximity of the intersection to the wetland on the southeast corner of the intersection, would possibly require the relocation of the intersection centerlines (and the roundabout center) westward in final design.

Although there are additional costs associated with this alternative--notably land acquisition and additional stormwater management--and future traffic loading and traffic patterns at this intersection can only be estimated, a roundabout appears to be a beneficial long-term solution that could be designed, funded, and constructed in the near term.

Phasing of Roundabout Construction

The roundabout details are indicated in this study as an option denoted "a" only for convenience sake and not to imply that this alternative is inferior to the traditional style intersection treatment. The "a" designation was applied to the option only because the concept of using a roundabout was developed late in the process of the study, and after discussions with the citizen advisory committee suggested that a non-traditional, traffic-calming approach was desired by residents of the area. In recent discussions with the advisory committee, they stressed that the roundabout option was their *preferred* alternative and that the "a" designation should not transfer priority to those options without the designation. The study team agreed to distinguish the difference between the options in a way that did not prejudice the reader, or decision makers, in one way or another. For that reason, the following comments and observations are provided:

- Of all the intersections available for a large-scale testing and demonstration of the benefits (and costs, including operations obstacles) of roundabouts, the Buck Lake Road intersection is perhaps the ideal location in Leon County for the construction of a roundabout, if it is built as a part of the major reconstruction of the roadway;
- The intersection is within a school zone where high speeds often occur;
- A roundabout may provide benefits to pedestrians, since all traffic will be slowed; design of the roundabout in this location requires careful consideration of pedestrian access; pedestrian design guidelines should be researched in final design and the design should accommodate the particularly large number of child pedestrians anticipated at this intersection (a school crossing guard and flashing "school zone" warning signs may still be a necessity);
- The location, in the vicinity of two schools, is one which will have high a.m. peak traffic, and many trips which will make left turns;
- Traffic flows are proportionately not markedly dissimilar on any leg at this intersection;
- Traffic speeds are consistently considerably higher than those posted;
- This study and other efforts are aimed at increasing the use of Pedrick Road as an option to using Buck Lake Road, and a roundabout may encourage use of Pedrick Road;
- The citizens who have communicated desires about the Buck Lake community have consistently suggested that a community-building visual feature is necessary within the corridor--a roundabout, properly landscaped could be that feature;
- Signalization, although the traditional approach to traffic control, would create congestion at the intersection; a roundabout would move traffic efficiently at all times;
- A roundabout is marginally more costly initially, but considering the maintenance and replacement costs of signalization, is possibly cheaper throughout its lifetime than signalization;

- The preliminary design for the roundabout is considerably larger than the only operating roundabout in Leon County, located at the intersection of Killarney Way and Shamrock West in Killearn Estates. While that is an excellent location for a rotary traffic control device, its small scale, oval shape, and one lane design features would not function well at the proposed location where higher speeds, large numbers of pedestrians, and some truck traffic are anticipated.

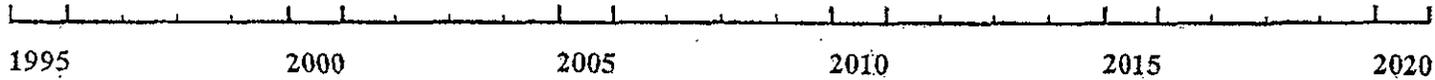
The roundabout option was not suggested for *Alternative 1* because of the temporary nature of that alternative. If a roundabout is constructed early in the program of improvements it should be built to coincide with the future lane conditions shown in *Alternative 2* or *Alternative 3*.

BUCK LAKE ROAD RECOMMENDED IMPROVEMENT PROGRAM TO MEET EXISTING AND PROJECTED NEEDS

Improvement of U.S. 90 overdue,
including Buck Lake Road approach

Four-laning east to Davis Road
will be needed

Four-laning east to Pedrick Road
will be needed



Design and construct approach to U.S. 90, east to Fallschase Boulevard as part of FDOT U.S. 90 widening project.
1995 - 1998

Design, acquire right-of-way, construct roundabout and landscaping at Pedrick Road intersection
1995 - 1997 and provide left turn lanes and landscaping at Buckwood Drive and Charlais Street intersections.

Acquire right-of-way for four-lane, Fallschase Boulevard to Pedrick Road;
1996 - 1998 add landscaping as land is acquired.

Design, construct four-lane,
2000 - 2004 Fallschase Boulevard to Davis Road.

Design and construct four-lane,
2015 - 2019 Davis Road to Pedrick Road

Opportunities to Enhance the Basic Streetscape

Having met the basic landscape treatment requirements, a number of enhancement opportunities are available both within and outside the right of way. Medians and intersections are two opportunities within the right of way. Safety issues are particularly important in designing landscape treatments for intersections. Minimum sight lines require at least a fifty feet set back from the intersection and canopy clear zones must be respected to avoid obstructing the motorist's view. The landscape treatment drawings also illustrate the canopy clear zone minimums needed.

With carefully designed median and intersection treatments, the streetscape will announce key intersections such as entrances to neighborhoods. Identifying neighborhood entrances contributes to creating community identity. Another option is to incorporate signage into the landscaping to create a unique community feature. An excellent example is the entrance to the Avondale subdivision located south of Buck Lake Elementary School on Pedrick Road. Designed by Smith Gilchrist, P.A., the rough laid stone sign wall and landscape treatment together create an entry feature that is very much in character with both the neighborhood and the Buck Lake Road area. A similar entry treatment at the intersection of Buck Lake Road and U.S. 90 could identify the entire Buck Lake Road community.

Landscaping medians and intersections will also aid drivers on the road by alerting them to upcoming intersections, crosswalks or bus stops. In order to properly function as visual cues for upcoming intersections, median plantings should begin at least 500 feet from the intersection. This should be a minimum distance given the projected speed limit for Buck Lake Road. Additionally, median plantings can reduce glare from on coming headlights, thereby increasing safety at night. Landscaped medians also reduce the amount of paving required for the roadway, making for a more pleasant corridor with greater amounts of green space.

Other opportunities to enhance the basic streetscape treatment include emphasizing features unique to the road corridor. For example, Buck Lake provides a beautiful vista from the road. This vista can be framed and enhanced with appropriate plantings or with a careful pruning of existing vegetation. As an additional measure, the removal of noxious and invasive plants from the wetland areas, particularly around Buck Lake, should be included as part of the pruning and maintenance schedules. On the other hand, undesirable features such as drainage facilities can be screened from view. Using carefully selected plants the combination can create a beautiful effect that gives Buck Lake Road a unique character that will improve with each year that passes.

Landscape Easements

With the cooperation of the residents living along Buck Lake Road, there is an innovative way to

expand the streetscape outside of the road right of way. Dedicated landscape easements outside the actual road right of way provide space for additional screening, aesthetic plantings, reforestation pedestrian walks or any combination of these options. For residents whose homes are closer than others to the road, significant benefits in noise reduction and visual screening are possible with landscape easements. Issues of ownership, sizes of easements, provision of plant materials and maintenance issues are all details to be worked out in an agreement between the respective residents and the appropriate government agency. The landscape treatment drawings in the preliminary engineering plans illustrate some ways such easements are used.

5. *Evaluation of Alignment [VI; A.5.]*

The Buck Lake Road Corridor Study is a study of a fixed alignment of an existing roadway to determine existing characteristics of use and projections of future use. Alternative alignments, termination points, and parallel routes, as well as other design options, were reviewed as potential solutions for projected future congestion. Some options were rejected in the traffic analysis phase of the project. These were either ineffective as projected solutions, or were too costly in terms of community impacts. Other operational or design options were considered to be potentially effective and were analyzed to determine their impacts on the environment and the community. The potential impacts and costs are summarized in the following sections.

a. *Construction Cost Estimates [VI; A.5.a.]*

Detailed preliminary construction cost estimates were completed as a part of this study. A summary of these estimated costs is displayed in Table DA-3, below.

*Table DA-3
Preliminary Construction Cost Estimate
for Alternatives 1, 2, 2a, 3, and 3a¹*

<i>Alternative</i>	<i>Description</i>	<i>Construction Cost</i>
1.	Safety improvements; stormwater management facilities.	\$2,165,000
2.	Four-lane from US 90 to Davis Drive with bicycle lanes and sidewalks; two-lane with bicycle lanes and intersection improvements from Davis Drive to Pedrick Road; stormwater facilities.	\$4,366,000
2a.	Roundabout; additional cost to Alternative 2 with associated stormwater facilities.	\$153,000
<i>Total</i>	<i>Alternative 2 with roundabout.</i>	<i>\$4,519,000</i>
3.	Four-lane from US 90 to Davis Drive to Pedrick Road; bicycle lanes and sidewalks full length; stormwater facilities.	\$5,634,000
3a.	Roundabout, additional cost to Alternative 3 with associated stormwater facilities.	\$143,000
<i>Total</i>	<i>Alternative 3 with roundabout.</i>	<i>\$5,777,000</i>

Source: Detailed construction cost estimate prepared by Broward Davis and Associates, Inc., January 1995.

¹ Construction costs only. Land costs, engineering fees, and permit costs are not included here.

b. Right-of-Way Costs [VI; A.5.b.]

An analysis of land values was completed as a part of this corridor study, based on tax valuation from the 1993 Leon County tax rolls (Tables EE-32 and EE-33, in *Technical Memorandum No. 1* summarize the data). A sample of fifteen developed parcels, both mid-block lots and corner lots, and five undeveloped parcels, was used. Land required and land value indicated in Table DA-4 are estimated. No appraisals were made to determine the land values. The land cost estimates are for raw land only. Survey costs, engineering and attorneys fees, cure costs, and inflation are not included in the land costs estimated here. The cost of landscape easements is also not included in this estimate. Since the eminent domain process and costs can inflate the cost of raw land as much as 2 to 10 (or more) times the actual value, depending on the size of the parcel and the impacts to the property, the costs of acquisition are neglected here.

*Table DA-4
Summary of Present Land Costs
and Estimate of Right-of-Way Land Costs*

<i>Developed or Undeveloped Parcels</i>	<i>Average Price per Acre (1993 Tax Value)</i>	<i>100% Value (Assumes tax value at 80%)</i>	<i>Land Required for Stormwater Facilities</i>	<i>Cost of Land for Stormwater Facilities (per acre)</i>	<i>Land Required for Right-of-Way (acres)</i>	<i>Cost of Land for Right-of-Way (per acre)</i>	<i>Total Cost of Land</i>
<i>Alternative 1</i>							
Developed	\$23,221	\$29,027				\$30,000	\$0
Undeveloped	\$5,367	\$6,708	12.50	\$10,000			\$125,000
<i>Alternative 2</i>							
Developed	\$23,221	\$29,027			3.20	\$30,000	\$96,000
Undeveloped	\$5,367	\$6,708	12.50	\$10,000			\$125,000
<i>Alternative 3</i>							
Developed	\$23,221	\$29,027			6.50	\$30,000	\$195,000
Undeveloped	\$5,367	\$6,708	12.50	\$10,000			\$125,000
<i>Add for Roundabout, Alternative 2a and 3a</i>							
Developed	\$23,221	\$29,027			0.60	\$30,000	\$18,000
Undeveloped	\$5,367	\$6,708	0.90	\$10,000			\$9,000

Source: Broward Davis and Associates, Inc., study of land tax values in *Tables EE-32 and EE-33* in *Technical Memorandum No. 1*, December 1994.

Buck Lake Road Corridor Study

Public Hearing Exhibits

c. *Preliminary Estimate of Final Surveying, Engineering, Permitting, and Construction Administration Costs [VI; A.5.c.]*

The following tasks and associated costs are anticipated throughout the development of the final design, permitting, and construction of the Buck Lake Road Improvement Program:

<i>Surveying</i>	<i>\$75,000</i>
Route Engineering Survey; Profiles, Cross-sections, Easement Profiles, SWMF Site Topographic Survey	
Tree Location Survey	
Right-of-way Surveys, Takings Maps, and Parcel Maps	
As-Built Surveys and Record Drawings	
 <i>Utility Location</i>	 <i>\$15,000</i>
Right-of-way Surveys	
As-built Surveys and Record Drawings	
 <i>Engineering</i>	 <i>\$150,000</i>
Utility Relocation Design	
Hydrologic Calculations, Stormwater Management Facility (SWMF) Design	
Hydraulic Calculations and Design	
Roadway Design and Construction Plans	
Earthwork Balance Calculations	
Analysis of Engineering Economies	
Construction Details	
Construction Cost Estimate	
Certification of Construction	
 <i>Geo-technical Engineering and Testing</i>	 <i>\$20,000</i>
Soils Testing	
Final Pavement Design	
Pavement and Compaction Testing	
Stormwater Management Facility Analysis, Design, Specifications, and Testing	
 <i>Permitting</i>	 <i>\$50,000</i>
Federal, State, and Local Stormwater Management Permitting	
Environmental Permitting	
Tree and Landscape Permitting	
Dredge and Fill Permitting	
Utility Permitting	
 <i>Project Management (may be provided by Leon County Public Works)</i>	 <i>\$20,000</i>
Public Participation and Public Relations	
Project Administration, Review, and Scheduling	

Fiscal Review

Construction Administration (may be provided by Leon County Public Works) \$25,000
Specifications
Bid Documents and Bidding
Inspections
Review of Construction Payment Requests

Preliminary Estimate of Final Design Costs \$355,000

d. Relocation Estimate [VI; A.5.d.]

Relocations of businesses or residences often result from roadway improvements. These "whole takings" can result from two opposite arguments. First, government, in exercising its eminent domain authority, can argue that the acquisition of land and the buildings upon the land, is necessary in order to put the property to a public use; in the second instance, owners of property often argue that the taking of portions of the land upon which buildings sit is so intrusive that it causes the remainder to be of no use. Several properties may be acquired in the future in order to complete the recommended Buck Lake Road Improvement Program. These properties, and the reasons for their acquisition are described below.

Relocation Required to Acquire Sites for Stormwater Management Facilities

There are existing residences on Lots 19 and 20, Block D, in Meadow Hills subdivision, which experienced flooding during the severe 1994 rainfall events. These two lots, and Lots 17 and 18, Block D, are situated in a location and at an elevation suitable for the development of a regional stormwater management facility. This facility would be for the detention and filtration of the stormwater runoff generated by improvements made within Buck Lake Sub-Basin B (See also Sheet 14 of 40 of the preliminary engineering plans, and Table EE-11 and Figure EE-5 in *Technical Memorandum No. 1*.) Discussions between the property owners of Lots 19 and 20, and Leon County, indicate the willingness of the owners to discuss acquisition of these lots for the construction of stormwater management facilities (and to obviate the need for flood protection for these homes). Relocation assistance is not anticipated to be required. Other stormwater management facilities are planned, however, the remainder are on vacant parcels.

Relocation Required to Acquire Right-of-Way to Construct the Roundabout Option

Existing residences on Lots 45 and 46, in SugarMill Plantation, would be impacted by the construction of the roundabout option (*Alternatives 2a and 3a*). The design developed for the preliminary engineering plans indicates a right-of-way taking in the rear yards of these lots which

takes the right-of-way close to the rear of the residences. During an eminent domain proceeding it would be expected that these property owners would argue for excessive damages or for a whole taking. In anticipation of this, it is recommended in the final design of the roundabout, if no buildings have been built on the northwest and southwest corners of this intersection, that the centerlines of Pedrick Road be shifted westerly, and the centerline of Buck Lake Road be shifted southerly, to avoid excessive impacts to Lots 45 and 46.

A whole taking of Lots 45 and 46 is not anticipated to result from the development of the final design of the roundabout option. Therefore, relocation assistance is not anticipated to be required.

e. Business Damage Estimate [VI; A.5.e.]

Damages to businesses resulting from the reconstruction of roadways often are claimed in multiple forms related to: maintenance of access during construction; reductions in gross leasable area; reductions in numbers of parking spaces; removal or relocation of signs; and decreases (in rare cases, even increases) in traffic flows. Accurate estimates of business damages are difficult at this stage in the development of the corridor improvement program because there are currently no operating businesses along the study corridor. Future developers of the vacant commercially-zoned parcels should be aware, or should be advised, that the implementation of this roadway improvement program will affect the type, location, and direction of access to those parcels.

Except for the Sprint/Centel exchange, no operating businesses presently exist along the *study corridor*, however, several large parcels near the intersection of Buck Lake Road and US 90 are zoned for a mixture of uses including commercial and office uses. Discussions with the owners of these parcels indicate that their expectation is that these parcels will be developed within the time period of this corridor study, 1994-2020.

It is assumed that no business damages will be created by construction of the facilities indicated in the preliminary designs for *Alternatives 1, 2, 2a, 3, or 3a*. None were estimated.

f. Opinion of Landscape Costs

I.	Assumed Minimum Permitting Requirements:				Raw Plant
A.	Reforestation/street tree options: (Based on 40 tree per acre: 25A = 1,010 trees) Medium Street Trees (At Edges): 30 Gal.				<u>Costs Projected:</u> \$ 101,000.
B.	Tree removal mitigation (Allowance only) Large Trees In Easement (465): 65 Gal.				+ 114,000.
C.	Total Raw Plant Material Cost Projected for IA: Installed Cost multiplier projected: Installed Cost for planting projected:				215,000. + 2.5 \$ 537,500.
II.	Additive Alternates:				Raw Plant
A.	Visual screen requirement (Applies to Arterial Roads Only): Visual Screening of residential (Based on 12,750 l.f. of screen)	<u>Trees, 30 Gal.:</u> (12.5' O.C.) \$102,000.	<u>Shrubs:</u> (5' O.C.) \$12,750.	<u>Shrubs:</u> (3' O.C.) \$21,250	<u>Costs Projected:</u> \$ 136,000.
B.	Median landscape For alternatives:	<u>2 - Lane</u> \$104,000	<u>3 - Lane</u> \$183,000	<u>4 - Lane</u> \$ 183,000.●	\$ 183,000.
C.	Roundabout alternative:				+ 5,000.
D.	Total Raw Plant Material Cost Projected IIA-C: Installed Cost multiplier projected: Installed Cost for planting projected:				324,000. + 2.5 \$ 810,000.

● = The highest cost alternative (four-lane section) was selected to determine the projected cost shown.

NOTE: The figures presented herein are provided as part of a Corridor Study conducted in 1994; They are an opinion only; actual costs will not be known until the project is designed and bid. Cost will vary depending on permitting requirements, material availability, market conditions and construction schedule. Cost does not include those currently associated with civil engineering, nor other disciplines, nor does it include sedimentation and erosion controls, sodding, tree barricades, demolition, removal of existing material, irrigation, signage, or lighting.