MAYPORT ROAD ACCESS MANAGEMENT STUDY

Prepared for the
First Coast Metropolitan Planning Organization

Prepared by
Reynolds, Smith and Hills, Inc.
Architectural, Engineering, Planning and Environmental Services
10748 Deerwood Park Boulevard South
Jacksonville, Florida 32256-0597

October 2003
# TABLE OF CONTENTS

I. EXECUTIVE SUMMARY ............................................................................................................... E1

II. INTRODUCTION ...................................................................................................................... 1  
   A. Purpose of the Study ........................................................................................................ 1  
   B. Methodology and Process ............................................................................................... 1  
   C. Project Location and Study Area .................................................................................. 4  
   D. Summary of Existing Redevelopment and Corridor Enhancement Efforts .................. 4  

III. ROADWAY CHARACTERISTICS .......................................................................................... 6  
   A. Existing Roadway and Traffic Conditions ..................................................................... 6  
   B. Future Traffic ................................................................................................................. 12  
   C. Access Characteristics .................................................................................................... 13  
   D. Crash Data Analysis ........................................................................................................ 16  
   E. Multimodal (Pedestrian, Bicycle and Transit) Characteristics ....................................... 19  

IV. ALTERNATIVES ...................................................................................................................... 20  
   A. Bicycle Accommodations ............................................................................................... 20  
   B. Pedestrians .................................................................................................................... 21  
   C. U-turn Accommodations ............................................................................................... 21  
   D. Bus Stop Treatments ...................................................................................................... 23  
   E. Typical Sections for Existing Right of Way ................................................................. 23  

V. RECOMMENDED IMPROVEMENTS ......................................................................................... 32  
   A. Access Management Improvements ............................................................................. 32  
   B. Lane Reductions ............................................................................................................ 36  
   C. Pedestrian, Bicycle and Transit ..................................................................................... 38  
   D. U-turns ......................................................................................................................... 38  
   E. Typical Sections ............................................................................................................ 38  
   F. Lighting and Landscaping .............................................................................................. 43  
   G. Consistency with Other Improvements .......................................................................... 47  

VI. IMPLEMENTATION, FUNDING, PARTNERS AND CONSTRUCTION COSTS ....................... 49  
   A. Implementation ............................................................................................................... 49  
   B. Funding Partners .......................................................................................................... 49  
   C. Construction Cost Estimates ......................................................................................... 50
LIST OF TABLES

Table 1 Existing Annual Average Daily Traffic (AADT) ................................................................. 10
Table 2 Mayport Road Traffic Forecast (Future AADT) ................................................................. 12
Table 3 Mayport Road Vehicle Conflicts ......................................................................................... 13
Table 4 Mayport Road Driveway Density ......................................................................................... 15
Table 5 5-Year Crash Rates (97 – 2000) by Segment ................................................................. 18
Table 6 Location and Type of Crash by Segment ......................................................................... 18
Table 7 Location and Type of Crash by Intersection ................................................................. 18
Table 8 FDOT Arterial Access Management Classifications and Standards ................................. 33
Table 9 Flush vs Raised Conflict Point Comparison ......................................................................... 34
Table 10 Estimated Cost of Mayport Road Improvements ............................................................ 52

LIST OF FIGURES

Figure E1 Proposed View from Atlantic Boulevard Flyover ............................................................ E4
Figure E2 Proposed View from North of Church Road ................................................................. E5
Figure 1 Project Location and Study Area ....................................................................................... 5
Figure 2 Mayport Road Segments, Sheets 1 - 3 ............................................................................ 7
Figure 3 Existing Lane Configurations and Right of Way (100’) ...................................................... 11
Figure 4 Vehicle Conflicts .............................................................................................................. 14
Figure 5 Crash Locations ............................................................................................................... 17
Figure 6 U-turn Accommodations ................................................................................................. 22
Figure 7 Typical Section Alternative A Maximum Median/Minimum Border with 11-foot Lanes ...... 25
Figure 8 Typical Section Alternative B Balanced Median and Border with 11-foot Lanes ................. 26
Figure 9 Typical Section Alternative C Minimum Median/Maximum Border with 11-foot Lanes .... 27
Figure 10 Typical Section Alternative D Maximum Median/Minimum Border with 12-foot Lanes ... 29
Figure 11 Typical Section Alternative E Balanced Median and Border with 12-foot Lanes .......... 30
Figure 12 Typical Section Alternative F Minimum Median/Maximum Border with 12-foot Lanes ... 31
Figure 13 Recommended Plan ....................................................................................................... 35
Figure 14 Cross Parcel Access ....................................................................................................... 37
Figure 15 Recommended 120-Foot Landscaped Typical Section, N of Atlantic Blvd Flyover to 8th St... 40
Figure 16 Recommended 100-Foot Landscaped Typical Section, 8th St. to Church Rd ................. 41
Figure 17 Recommended 100-Foot R/W Landscaped Typical Section, N of Church Rd ............... 42
Figure 18 Examples of Decorative Light Poles .............................................................................. 44
Figure 19 Illustrative View of Typical Section North of Church Road ........................................... 45
Figure 20 Before and After Views from the Atlantic Boulevard Flyover ........................................ 46
Figure 21 United States Postal Service Conceptual Plan ............................................................... 48
Figure 22 City of Atlantic Beach and City of Jacksonville Limits for Mayport Road ....................... 51

APPENDICES

Appendix A – Review of Prior Studies, Research and Plans
Appendix B – Technical Steering Committee Materials
Appendix C – Public Involvement Materials
Appendix D – JTA Bus Lines on Mayport Road
I. EXECUTIVE SUMMARY

Overview and Process
Mayport Road (SR A1A/101) is an urban, minor arterial roadway, under the jurisdiction of the Florida Department of Transportation (FDOT). The Cities of Atlantic Beach and Jacksonville have identified the need for access management strategies along Mayport Road to reduce the frequency and severity of motor vehicle, bicycle and pedestrian crashes along the corridor.

The purpose of the Mayport (SR A1A/101) Road Access Management Study is to recommend access improvements along Mayport Road; promote a reduction in crashes; and recommend improvements consistent with the new redevelopment strategy for the corridor. Thus, this Planning Study focuses on identifying the specific details of the corridor redevelopment’s transportation concept, including the location of raised medians, location of median breaks, driveway adjustments and consolidations, sidewalk and bicycle provisions, and typical landscaping. The following major objectives were achieved in this study.

- Manage Access to and from Land Uses
- Improve Safety
- Encourage Development of a Bikeway/Pedestrian Corridor
- Coordinate with Existing Urban Design Redevelopment Efforts
- Address Post Office Access Improvements
- Coordinate Wonderwood/Mayport Intersection Improvements
- Coordinate with Mayport Naval Station

The study process was guided by a Technical Steering Committee (TSC). The TSC membership consisted of representatives from the First Coast Metropolitan Planning Organization, City of Atlantic Beach (Mayor, City Manager and Planner), City of Jacksonville Planning and Development Department, City of Jacksonville Public Works Department, Jacksonville Transportation Authority, Florida Department of Transportation, Mayport Waterfront Partnership, Mayport Naval Station and the Jacksonville Electric Authority. Additionally, three public workshops were held at key study milestones to provide study updates and obtain input from property owners and citizens.

Existing Conditions
Mayport Road from Atlantic Boulevard to 8th Street has a 120-foot right of way and a 100-foot right of way from 8th street to Wonderwood Boulevard. The south segment of Mayport Road from Atlantic Boulevard to 8th Street has 2 northbound and 2 southbound lanes that are bifurcated by the Atlantic Boulevard Flyover that provide a free flow traffic movement from eastbound Atlantic Boulevard to northbound...
Mayport Road. The Atlantic Boulevard Flyover lane joins the two northbound lanes to form the third northbound lane at 8th Street. The south segment of Mayport Road from 8th Street to Church Road has a 7-lane typical section consisting of 6 travel lanes and a two-way left-turn lane (TWLTL).

The highest Annual Average Daily Traffic volume along Mayport Road is 48,000 vehicles. The posted speed limit on Mayport Road is 45 mph. There are 10 signalized intersections, 32 unsignalized intersections and 133 driveways along the 3.5-mile section of Mayport Road. Sidewalks exist along the entire study corridor and bicycles share the road with traffic in 11-foot curb lanes, except near the Atlantic Boulevard Flyover where there is a designated bicycle lane.

Analyses of five years of FDOT crash data (1997 – 2001) reveal that about 700 crashes occurred during this period. The number of crashes along Mayport Road is not higher than the statewide average crash rate for similar roadways. Crashes at or influenced by the intersections represent 58% of the total. Crashes involving pedestrians and bicycles represent 4% and 5% respectively, of the total.

The access management recommendations presented in this Mayport Road Access Management Study correlate to the redevelopment and enhancement efforts taking place along Mayport Road in both the Cities of Atlantic Beach and Jacksonville. These redevelopment efforts grew out of the Mayport Road Corridor Study [HDR and Landers-Atkins Planners, May 2001]. This study presented a redevelopment strategy for the corridor. Recommendations from the Study are summarized in Appendix A.

Findings and Recommendations
Traffic forecast results indicate that the planned Wonderwood Connector is expected to carry the majority of traffic from the Mayport Naval Station and, therefore, future travel demand along the entire length of Mayport Road can be accommodated by a 4-lane divided roadway with a raised median. This means that the southern segment of Mayport Road from Atlantic Boulevard to Church Road has an extra travel lane that can be converted to a raised, planted median. North of the Atlantic Boulevard Flyover to 8th Street two 17-foot raised, planted medians can be installed without outside curb reconstruction. At 8th Street, where the Atlantic Boulevard Flyover becomes a northbound travel lane, a 22-foot raised, planted median can also be installed without outside curb reconstruction. The wider medians in this segment allow room for additional landscaping to create an “entryway” or “gateway” effect that will provide motorists with a visual sense of arrival to Mayport from the Atlantic Boulevard Flyover as illustrated in figure E1. The recommended median concept for Mayport Road north of Church Road is for a 15-foot raised, planted median with 4-foot stamped concrete traffic separators at the left turn bays. The concept also specifies four 11-foot through traffic lanes, 4-foot bicycle lanes and 8-foot sidewalks. The outside curbs must be reconstructed and drainage modifications made in this segment in order to accommodate the raised median and bicycle lanes. An illustrative of this typical section is shown in Figure E2.
Landscaped medians would generally consist of flowering trees, with native shrubs and groundcover planting placed between the trees. Irrigation and lighting should also be provided. Stamped decorative colored concrete is recommended for the 4-foot traffic separator portion of the medians, located at intersections and median openings.

Implementation is recommended in five phases. Each phase has a construction cost estimate of approximately $1 million for a total cost of approximately $5 million. Additionally, the City of Jacksonville, the City of Atlantic Beach and the Florida Department of Transportation have all indicated their willingness to share in the construction costs of the project.
Mayport Road Access Management Study

Proposed View
From the
Atlantic Boulevard Flyover

Figure E1
Page E4
Phase I, Initial Planning and Design Study
Executive Summary
October 2003
II. INTRODUCTION

A. Purpose of the Study
The Cities of Atlantic Beach and Jacksonville have identified the need to improve Mayport Road (SR A1A/101) by implementing access management strategies to reduce the frequency and severity of motor vehicle, bicycle and pedestrian crashes. The Cities also desire to improve the urban character of Mayport Road for pedestrians, motorists and businesses to promote economic growth.

The purpose of the Mayport (SR A1A/101) Road Access Management Study is to recommend access improvements along Mayport Road; achieve a reduction in crashes; and perform these improvements in conjunction with the new redevelopment strategy for the corridor. Thus, this Planning Study focuses on identifying the specific details of the corridor redevelopment’s transportation concept, including the design of center medians, location of median breaks, driveway adjustments and consolidations, sidewalk and bikeway provisions and typical landscaping.

The following objectives were achieved during this Study.
- Manage Access to and from Land Uses
- Improve Safety
- Encourage Development of a Bikeway/Pedestrian Corridor
- Coordinate with Existing Urban Design Redevelopment Efforts
- Address Post Office Access Improvements
- Coordinate with Wonderwood/Mayport Intersection Improvements
- Coordinate with Mayport Naval Station

This Access Management Study is the first step toward implementing improvements on Mayport Road. The next step requires funding for preparation of construction drawings consistent with the recommended concepts presented in this study.

B. Methodology and Process
This study used existing data available from the City of Atlantic Beach, the City of Jacksonville, FDOT and others. Controlled aerial photography was flown to provide base plan information for the project. Reynolds, Smith and Hills, Inc. reviewed several prior studies of Mayport Road and conducted research pertaining to access management. A brief synopsis of the prior studies and research is provided in Appendix A.
The study process was guided by the Mayport Road Access Management Study Technical Steering Committee (TSC). Additionally, three public workshops were held at key study milestones to provide study updates and obtain input from property owners and citizens.

**Technical Steering Committee (TSC)**

The study process was guided by a TSC, which consisted primarily of local and state government agency representatives. Three committee meetings were held during a five-month period. Committee representatives provided technical expertise and a review of study procedures and deliverables. Membership included representatives from each of the following:

- First Coast Metropolitan Planning Organization
- City of Atlantic Beach (Mayor, City Manager and Planner)
- City of Jacksonville Planning and Development Department
- City of Jacksonville Public Works Department
- Jacksonville Transportation Authority
- Florida Department of Transportation
- Mayport Waterfront Partnership
- Mayport Naval Station
- Jacksonville Electric Authority

The TSC membership list and meeting notes are provided in Appendix B. The Mayport Waterfront Partnership was an important stakeholder throughout the study process. A consultant team member attended four meetings of the Mayport Waterfront Partnership’s Road Subcommittee to both update them on the study and receive input.

**Property Owners and General Public**

**Stakeholder Identification**

A list of approximately 375 stakeholders was created from contacts developed by the Mayport Waterfront Partnership and supplemented with a search of property owners within the study area that were listed in the Duval County Property Appraiser Database. This list was updated throughout the study with workshop attendees.

**Workshops**

Three public workshops were held at key study milestones to provide study updates and obtain property owner and public input. Each workshop was held from 6 – 8 p.m. at the City of Atlantic Beach Commission Chambers. The workshops included presentations, group discussions and
open house periods for attendees to review exhibits and discuss issues and concerns individually with project team members.

Notification
Three newsletters, created to inform the public about the study and invite workshop participation, were mailed to the stakeholder list. Meeting advertisements for each workshop were placed in the Florida Times-Union Shorelines edition and the Beaches Leader. In addition, workshops were promoted through the Mayport Waterfront Partnership meetings, and by the Cities of Atlantic Beach and Jacksonville.

Participation
Attendance at the public workshops included business owners, property owners and citizens within the study area. Attendance, excluding project team members, for each meeting was

- March 20, 2003 - 17 attendees,
- May 8, 2003 – 20 attendees and
- July 17, 2003 – 22 attendees.

Public Comments
Comment forms were used to solicit feedback on their satisfaction with the workshops, as well as issues and concerns and specific study suggestions.

- All respondents found the workshop helpful.
- All the respondents felt the information presented was easy to understand.
- None of the respondents made suggestions for changes to future workshops.
- When the participants were asked how they learned about these meetings (via sign-in sheet), 50% of respondents indicated the meeting flyer, 28% indicated the meeting advertisements and 22% indicated other sources such as neighborhood meetings and the Mayport Waterfront Partnership.

Study Media Coverage
The Florida Times-Union Shorelines segment contained several articles covering the study.

Presentations
In addition to presentations made during the public workshops, presentations were made to the Mayport Waterfront Partnership, the City of Atlantic Beach, and the FCMPO Committees and Board.
The newsletters, meeting ads, attendance lists, comment summary, meeting notes and copies of online articles are included in Appendix C.

C. Project Location and Study Area
The Mayport Road Access Management Study examined a 300-foot corridor centered along the existing roadway that extends from Atlantic Boulevard (SR10) to Wonderwood Drive, a length of approximately 3.5 miles. As shown in Figure 1, Mayport Road is located within portions of both the City of Atlantic Beach and the City of Jacksonville. The primary focus of the study is on the properties having direct access to Mayport Road.

D. Summary of Existing Redevelopment and Corridor Enhancement Efforts
The access management recommendations presented in this Mayport Road Access Management Study correlate to the redevelopment and enhancement efforts taking place along Mayport Road in both the Cities of Atlantic Beach and Jacksonville. These redevelopment efforts grew out of the Mayport Road Corridor Study [HDR and Landers-Atkins Planners, May 2001]. This study presented a redevelopment strategy for the corridor. Recommendations from the Study are summarized in Appendix A.
Phase I, Initial Planning and Design Study  Introduction

October 2003

**Project Location and Study Area**

**Legend**
- Project Study Area
- City Limits
  - City of Jacksonville
  - City of Atlantic Beach
  - City of Neptune Beach

**Figure 1**

Mayport Road Access Management Study
III. ROADWAY CHARACTERISTICS

A. Existing Roadway and Traffic Conditions

Mayport Road is a north-south, urban minor arterial roadway, under the jurisdiction of the Florida Department of Transportation (FDOT). Since the study limits are approximately 3.5 miles in length, three segments were identified. The south segment begins at Atlantic Boulevard and ends at Church Road. The center segment begins at Church Road and ends at SR A1A. The north section begins at SR A1A and extends north of Wonderwood Drive to the Naval Air Station property line. The posted speed limit on Mayport Road is 45 mph. There are 10 signalized intersections, 32 unsignalized intersections and 133 driveways along Mayport Road. The traffic signals are located at the following cross streets.

South Segment
- Atlantic Boulevard
- Plaza Road
- Donner Road & Levy Road
- Church Road

Center Segment
- Buccaneer Trail and Fairway Villas Drive
- Assisi Lane and Fleet Landing Boulevard
- SR A1A

North Segment
- Mazama Road
- Mayport Middle School entrance
- Wonderwood Drive

The roadway segments and traffic signal locations are illustrated in Figure 2, sheets 1, 2 and 3.

The portion of the south segment from Atlantic Boulevard to 8th Street has 2 northbound lanes and 2 southbound lanes that are bifurcated by the Atlantic Boulevard Flyover. The Atlantic Boulevard Flyover provides a free flow left-turn movement from eastbound Atlantic Boulevard to northbound Mayport Road. The Atlantic Boulevard Flyover joins the two northbound lanes to form the third northbound lane at 8th Street. This segment portion has a 120-foot right of way. The portion of the south segment from 8th Street to Church Road has a 7-lane typical section consisting of six through travel lanes and a two-way left-turn lane (TWLTL). This segment portion has a 100-foot right of way.
Phase I, Initial Planning and Design Study  Roadway Characteristics  October 2003

Mayport Rd
Church Rd to SR A1A

SR A1A
MAYPORT RD
CHURCH RD

Phase I, Initial Planning and Design Study
Roadway Characteristics
Figure 2
Sheet 2 of 3
Page 8
Figure 2

Parcels
Signalized Intersection
Project
Study Area

0 250 500
Feet

WONDERWOOD DR

MAYPORT RD

SR A1A

North Segment
SR A1A
to Church Road

Phase I, Initial Planning and Design Study  Roadway Characteristics  October 2003
The center and north segments have a 5-lane typical section consisting of four through travel lanes and a TWLTL. The center and north section have 100-foot rights of way. Figure 3 shows the existing lane configuration and the 7-lane and 5-lane typical section for the 100-foot right of way portion of Mayport Road looking south towards the Atlantic Boulevard Flyover. The Annual Average Daily Traffic (AADT) in the south, center and north segments of Mayport Road are presented in Table 1. The AADT volumes are from the Florida Traffic Information (FTI) CD, which also reports that during the peak hour about 8.6% of the AADT and about 53% of the traffic travels in the peak direction. Trucks along Mayport Road represent about 4% of the traffic.

Table 1  Existing AADT*

<table>
<thead>
<tr>
<th>SEGMENT</th>
<th>LOCATION</th>
<th>VOLUME (2001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>South</td>
<td>South of 11th Street</td>
<td>48,000</td>
</tr>
<tr>
<td>Center</td>
<td>North of Church Road</td>
<td>44,500</td>
</tr>
<tr>
<td>North</td>
<td>North of SR A1A</td>
<td>26,500</td>
</tr>
</tbody>
</table>

* Wonderwood Connector not opened
1 7-lane typical section
2 5-lane typical section
Figure 3
Existing Lane Configurations and Right of Way (100')
B. Future Traffic

Future traffic was estimated for current roadway lane configurations and proposed lane configurations for 2015 and 2025. The Jacksonville Urbanized Area Transportation Study (JUATS) travel demand computer model was used to forecast Peak Season Weekday Average Daily Traffic (PSWADT) for Mayport Road. The model PSWADT volumes were converted using FDOT factors to estimate Average Annual Daily Traffic (AADT).

The following assumptions were made for modeling future traffic.

Current Roadway Configuration
- No changes to Mayport Road.
- Wonderwood Drive extension is open as a four-lane divided facility with an at-grade intersection with Mayport Road.
- All cost feasible projects are in place in the area of the corridor.

Proposed Roadway Configuration
- Seven-lane segment of Mayport Road from Atlantic Boulevard to approximately Church Road was removed and replaced with a four-lane divided facility.
- Wonderwood Connector is open as a four-lane, divided facility with an at-grade intersection with Mayport Road.
- All cost feasible projects are in place in the area of the corridor.
- Number of signalized intersections would remain the same.
- Raised median would provide for exclusive left turn lanes at each signalized intersection.

Table 2 shows the forecasted traffic for the three segments of Mayport Road for 2015 and 2025 for the current and proposed roadway configurations.

Table 2  Mayport Road Traffic Forecast (Future AADT)*

<table>
<thead>
<tr>
<th>SEGMENT</th>
<th>LOCATION</th>
<th>CURRENT LANES</th>
<th>PROPOSED LANES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2015</td>
<td>2025</td>
</tr>
<tr>
<td>South</td>
<td>South of 11th Street</td>
<td>35,600(^1)</td>
<td>36,800(^1)</td>
</tr>
<tr>
<td>Center</td>
<td>North of Church Road</td>
<td>24,400(^2)</td>
<td>25,600(^2)</td>
</tr>
<tr>
<td>North</td>
<td>North of SR A1A</td>
<td>12,600(^2)</td>
<td>13,300(^2)</td>
</tr>
</tbody>
</table>

* Wonderwood Connector opened
  1 7-lane typical section
  2 5-lane typical section
  3 4-lane typical section with raised median
A comparison of the traffic volumes in Tables 1 and 2 reveal that traffic is anticipated to decrease significantly along all segments of Mayport Road with the opening of the Wonderwood Connector. The traffic model shows that the Wonderwood Connector is expected to carry the majority of traffic to and from the Mayport Naval Station. This means that the future traffic along the entire length of Mayport Road can be adequately accommodated by 4 travel lanes (2 in each direction). Therefore, the six travel lanes currently south of Church Road will not be required after the Wonderwood Connector is opened. Meetings with the TSC revealed that current high traffic volumes on Mayport Road represent a non-typical traffic condition due to the presence of thousands of contract employees maintaining the USS John F. Kennedy, an aircraft carrier being repaired at the Mayport Naval Station. The Committee agreed that this study should plan for the AADT traffic conditions and corresponding Directional Design Hour volumes (DDHV).

C. Access Characteristics

The FDOT has established an access classification system and design standard for “the regulation and control of vehicular ingress to, and egress from, the State Highway System.”¹ As previously discussed, Mayport Road has a 5-lane and 7-lane typical section with a TWLTL in the middle lane. Along the 3.5-mile study corridor there are 10 signalized intersections, 32 unsignalized intersections and 133 driveways.

The majority of these access locations provide for unrestricted traffic movements, which creates vehicle conflict points where potential vehicle crashes may occur. Figure 4 illustrates the vehicle conflicts at a typical intersection. The following table summarizes the number of conflict points along Mayport Road.

Table 3  Mayport Road Vehicle Conflicts

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>NUMBER</th>
<th>CONFLICT POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signalized</td>
<td>10</td>
<td>204</td>
</tr>
<tr>
<td>Unsignalized</td>
<td>32</td>
<td>402</td>
</tr>
<tr>
<td>Driveways</td>
<td>133</td>
<td>1463</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2069</strong></td>
<td></td>
</tr>
</tbody>
</table>

As shown in the table, the number conflict points associated with driveways is more than 2 times higher than those at intersections combined. Studies have shown that limiting the number of conflict points and separating the conflict points will reduce the number of crashes.

¹ Florida Administrative Code Chapter 14-97 State Highway System Access Management Classification System and Standards, Page 271
36 Conflicts
22 If Signalized
Driveway density for Mayport Road segments is shown in Table 4.

**Table 4 Mayport Road Driveway Density**

<table>
<thead>
<tr>
<th>SEGMENT</th>
<th>MILES</th>
<th>NUMBER OF DRIVEWAYS</th>
<th>TOTAL</th>
<th>DENSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SOUTHBOUND</td>
<td>NORTHBOUND</td>
<td></td>
</tr>
<tr>
<td>South</td>
<td>1.21</td>
<td>17</td>
<td>35</td>
<td>52</td>
</tr>
<tr>
<td>Center</td>
<td>1.090</td>
<td>26</td>
<td>24</td>
<td>50</td>
</tr>
<tr>
<td>North</td>
<td>1.008</td>
<td>8</td>
<td>23</td>
<td>31</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3.3</strong></td>
<td><strong>51</strong></td>
<td><strong>82</strong></td>
<td><strong>133</strong></td>
</tr>
</tbody>
</table>

The driveway density along Mayport Road averages 40 driveways per mile. The highest densities are 8th Street to Church Road and Church Road to SR A1A, with 47 and 46 driveways per mile respectively. Study research on the effects of driveway spacing on crashes shows that driveway densities over 20 have twice as many crashes as those with 20 or less driveways per mile.

The estimated traffic generated by these driveways was based upon field identification of the business reconnaissance of the location of land uses and driveways along the corridor, as well as guidance from the *Institute of Traffic Engineers Trip Generation Manual*. During the morning peak hour approximately 2,400 trips are estimated to enter and exit the driveways and approximately 3,700 total trips are estimated to enter and exit the land uses along Mayport Road during the evening rush hour. The Atlantic Beach Post Office at Plaza Drive generates the largest number of trips, with an estimated 400 total trips entering and exiting during the PM peak hour. Mayport High School, Mayport Crossings, Navy Commissary and Hanna Park were also identified as activity generators.
D. **Crash Data Analysis**

Five years of crash data (1997 – 2001) was obtained from the Florida Department of Transportation (FDOT). The FDOT crash database contains long form crashes, which generally are the more severe crashes such as fatalities, injuries, hit and runs and drinking under the influence related crashes. A five-year crash rate, reflecting crashes per million vehicle miles, was computed for three segments along Mayport Road. Additionally, crashes were examined in regards to their location and type. Specific locations examined included crashes at intersections, crashes at the median and crashes at driveways. Specific crashes by type included those involving trucks, crashes involving pedestrians and crashes involving bicyclists.

Mayport Road compares favorably to other similar roadways throughout the state, with a crash rate that is less than other similar roads. Tables 5, 6 and 7 summarize the results. The crash assessment reveals the following:

- Crashes along the Mayport Road segments are lower than statewide average crash rates for similar roadways.
- Crashes at or influenced by the intersections are 58% of the total.
- Crashes at driveway accesses are 19% of the total.
- Crashes involving trucks are 37% of the total.
- Crashes involving pedestrians and bicycles are 4% and 5% of the total, respectively.

Crash locations were mapped to determine where crashes occur. Figure 5 displays the location of crashes along Mayport Road for the most recent three-year period. The figure shows that crashes are clustered at the intersections. Intersections with more than 19 crashes were identified and are 2nd Street, Plaza Road, Levy Road/Donner Road, Assisi Lane and SR A1A. Table 7 provides an evaluation of crash location and type information at these intersections.
### Table 5 5-Year Average Crash Rates (1997 – 2000) by Segment

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic Blvd</td>
<td>Levy Rd</td>
<td>0.842</td>
<td>0.842</td>
<td>59</td>
<td>51</td>
<td>43</td>
<td>49</td>
<td>51</td>
<td>4.57</td>
<td>3.951</td>
</tr>
<tr>
<td>Levy Rd</td>
<td>Mayport Crossing Ent.</td>
<td>2.300</td>
<td>2.300</td>
<td>70</td>
<td>52</td>
<td>56</td>
<td>70</td>
<td>64</td>
<td>2.712</td>
<td>1.915</td>
</tr>
<tr>
<td>Mayport Crossing Ent.</td>
<td>Wonderwood Drive</td>
<td>2.300</td>
<td>3.308</td>
<td>22</td>
<td>19</td>
<td>19</td>
<td>31</td>
<td>48</td>
<td>1.976</td>
<td>1.794</td>
</tr>
</tbody>
</table>

Source: FDOT District 2, Traffic Operations

### Table 6 Location and Type of Crash by Segment

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>B.M.P.</th>
<th>E.M.P.</th>
<th>Median Crash</th>
<th>% Of 5 Year Total</th>
<th>Crashes At Or Influenced By Intersection</th>
<th>% Of 5 Year Total</th>
<th>Crashes At Driveway Access</th>
<th>% Of 5 Year Total</th>
<th>% Of 5 Year Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic Blvd</td>
<td>Levy Rd</td>
<td>0.842</td>
<td>0.842</td>
<td>4</td>
<td>2%</td>
<td>174</td>
<td>69%</td>
<td>29</td>
<td>11%</td>
<td>92</td>
</tr>
<tr>
<td>Levy Rd</td>
<td>Mayport Crossing Entrance</td>
<td>2.300</td>
<td>2.300</td>
<td>---</td>
<td>49%</td>
<td>83</td>
<td>27%</td>
<td>79</td>
<td>25%</td>
<td>108</td>
</tr>
<tr>
<td>Mayport Crossing Entrance</td>
<td>Wonderwood Drive</td>
<td>2.300</td>
<td>3.308</td>
<td>5</td>
<td>4%</td>
<td>85</td>
<td>61%</td>
<td>25</td>
<td>18%</td>
<td>58</td>
</tr>
<tr>
<td>Total (Entire Corridor)</td>
<td></td>
<td></td>
<td></td>
<td>704</td>
<td>11%</td>
<td>411</td>
<td>58%</td>
<td>133</td>
<td>19%</td>
<td>258</td>
</tr>
</tbody>
</table>

Source: FDOT District 2, Traffic Operations

### Table 7 Crash Location and Type by Intersection

<table>
<thead>
<tr>
<th>Site</th>
<th>Mile Post</th>
<th>Total Crashes</th>
<th>Mid Block</th>
<th>At Intersection</th>
<th>Influenced By Intersection</th>
<th>Driveway Access</th>
<th>Cross Walk</th>
<th>Median</th>
<th>Right Turn</th>
<th>Continuous Turn Lane</th>
<th>Left Turn Lane</th>
<th>Rear End</th>
<th>Head On</th>
<th>Angle</th>
<th>Left Turn</th>
<th>Right Turn</th>
<th>Side Swipe</th>
<th>Collision W/ Pedestrian</th>
</tr>
</thead>
<tbody>
<tr>
<td>W 2nd Street</td>
<td>0.143</td>
<td>19</td>
<td>0</td>
<td>19</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plaza Road</td>
<td>0.668</td>
<td>45</td>
<td>0</td>
<td>43</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>1</td>
<td>8</td>
<td>14</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Levy Rd/ Donner Rd</td>
<td>0.842</td>
<td>27</td>
<td>0</td>
<td>28</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>9</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fleet Landing Blvd/ Assist Lane</td>
<td>2.115</td>
<td>46</td>
<td>0</td>
<td>46</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>17</td>
<td>0</td>
<td>7</td>
<td>12</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Fleet Landing Blvd / Assist Lane</td>
<td>2.3</td>
<td>48</td>
<td>0</td>
<td>48</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>14</td>
<td>5</td>
<td>11</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: FDOT District 2, Traffic Operations
E. Multimodal (Pedestrian, Bicycle and Transit) Characteristics

Sidewalks exist along the entire Mayport Road study corridor. Although bicycle lanes exist in the south segment near the Atlantic Boulevard Flyover, there aren’t any other bicycle lanes along the study corridor. Crashes involving pedestrians averaged about 25 per year and crashes involving bicycles averaged 38 a year for the five-year period from 1997 to 2001. As previously discussed, the Beaches Bikeway Study recommended Mayport Road as a bicycle route.

Currently pedestrians are accommodated by 5-foot sidewalks that extend the entire length of Mayport Road on both the east and west side of the street. Although crosswalks are present at the signalized intersections, pedestrians were observed crossing at mid-block locations, standing in the TWLTL, waiting for gaps in traffic. On average about 5 crashes a year involve pedestrians. One fatality was also reported during the five-year period.

The south segment of Mayport Road near the Atlantic Boulevard Flyover, dedicated 4-foot bicycle lanes are provided. On remaining portions of Mayport Road, bicycles must share the road with narrow 11-foot travel lanes. Casual bicyclists were observed riding on sidewalks and bicycle enthusiasts were observed riding as groups in the curb lane. Crashes involving bicycles average about 8 crashes a year during the five-year period.

Transit users are currently accommodated by two bus lines that travel the Mayport Road Corridor; 1) Q3 - Mayo Clinic-Mayport Village and 2) Q4 - Mayport Naval Station. The Jacksonville Transportation Authority (JTA) operates both bus lines. The Q3 bus line runs once an hour on weekdays and once every two hours on weekends. The Q4 line runs once an hour on both weekdays and weekends. JTA reports that current average weekday ridership for the Q3 and Q4 lines are 322 and 254 passengers, respectively. (Refer to Appendix D for JTA, Q3 and Q4 line information.)
IV. ALTERNATIVES

During the study several alternatives were considered and discussed during TSC meetings. The following section summarizes the mobility and access management alternatives considered.

A. Bicycle Accommodations

The following alternative bicycle routes were discussed during the study.

Bicycle Trail on a Series of Roadways Parallel to Mayport Road

A comprehensive study on a beaches bicycle pathway system, *Beaches Bikeway Report, June 27, 2002*, by the cities of Atlantic Beach, Neptune Beach, and Jacksonville Beach, recommended priority bikeway systems for the City of Atlantic Beach. Priority #1 traveled from the Mayport Ferry to Atlantic Boulevard and 1st Street. A significant portion of the recommended bikeway traveled from Hanna Park, at Wonderwood Drive, along Seminole Road to Ocean Drive. During a study TSC meeting discussion it was determined that this recommendation was not acceptable to residents along Seminole Road. The City of Atlantic Beach and TSC recommended a bicycle corridor to be established along Mayport Road.

Shared/Multi-Use Path/Sidewalk along Mayport Road

A shared/multi-use path along Mayport Road was considered as a potential option for encouraging bicycle travel along Mayport Road. Multi-use pathways are traditionally much wider than a regular sidewalk and encourage both bicycle and pedestrian travel. Discussion during a TSC meeting noted that this type of pathway might appeal to the less serious bicyclist and young children on bicycles. The location of the path was proposed within the border area adjacent to or combined with the sidewalk. The TSC concluded that a significant disadvantage of the shared/multi-use path was that they are not as safe when continuously crossed by driveways such as would be the case along Mayport Road. FDOT stated that bicycle related crashes often occur on sidewalks at driveways, due to motorists not anticipating bicycles traveling on the sidewalk against the roadway traffic flow. Automobile drivers typically look for on-coming motorized and non-motorized traffic by looking to the right first. Bicyclists on shared/multi-use paths would be traveling in both directions, making it more difficult for automobile drivers to anticipate them.

Designated 4-Foot Bicycle Lanes

Given the safety concerns of placing a multi-use bicycle path adjacent to the sidewalk and the fact that serious bicyclists reportedly prefer to travel in the roadway, the TSC decided Mayport Road should have designated bicycle lanes. Designated bicycle lanes consist of a 4-foot bicycle lane on each side of Mayport Road.
B. Pedestrians

   Sidewalk and Border Area

In order to accommodate pedestrians the TSC preferred sidewalks wider than the typical 5-foot width. The provision of wider sidewalks would create a more desirable pedestrian space consistent with the intent to improve the urban character of Mayport Road. The question of how much wider is a function of balancing travel lanes, bicycle lanes, median widths and border area. The trade off of an extra wide median would be less border area for landscaping and pedestrians.

The stated desire of the TSC was to provide sufficient space for pedestrians to stroll along the sidewalk and "window shop" at the proposed businesses and shops. Another reason is to accommodate both increased pedestrian activity and children on bicycles was also recommended. In this context the 8-foot minimum width sidewalk is desirable. This dimension enables two pair of pedestrians to comfortably pass. This accommodation is an important urban design characteristic.

C. U-turn Accommodations

The TSC discussed the need to accommodate automobile U-turns. They concurred that U-turn movements should be accommodated with U-turn curb cutouts that do not require purchase of additional right of way. U-turns should be permitted at every median opening and designed to accommodate passenger vehicles. Delivery trucks would need to plan their routes to avoid the need for U-turns. Additionally, goods distributors and business suppliers may also be able to use smaller vehicles. Figure 6 displays the concept for accommodating U-turns with U-turn cutouts.
Unsignalized w/ Directional Turn Lanes
& U-Turn Curb Cutouts

Signalized w/ Left Turn Lanes
& U-Turn Curb Cutouts
D. Bus Stop Treatments

Currently buses stop in the curb lane to board and discharge passengers. The study team considered the alternative of using bus pullouts to remove buses from the curb travel lane while boarding and discharging passengers. The bus pullouts would be placed on the far side of signalized intersections and at selected bus stops along Mayport Road. The idea was to have the bus pullouts double as U-turn cutouts. This option was discussed with the TSC and in particular with the Jacksonville Transportation Authority (JTA). Generally, the advantage of bus pullouts is improvement in traffic flow due to the removal of stopped buses from the curb travel lane. However, the following issues pose additional considerations related to the incorporation of bus pullouts along Mayport Road.

- The addition of bus pullouts, which are typically 12-foot lengths, would require additional right of way to provide for sidewalks. Additional right of way would increase project implementation costs. The City of Atlantic Beach expressed a desire to keep project costs down.
- Buses in bus pullouts on Mayport Road would have a difficult time re-entering the traffic stream given the traffic density and 45 mph speed limit.
- Placing bus pullouts along the roadway at only selected bus stop locations such as far side bus stops or median breaks, would not give drivers a clear expectation of when buses would be stopping in the travel lane, potentially causing confusion and safety problems.
- The alternative of placing bus pullouts at every bus stop would most likely be cost prohibitive, particularly since the construction of bus pullouts would require additional right of way and the City of Atlantic Beach expressed a desire to keep project costs down.
- Bus pullouts with current speed conditions along Mayport Road would likely pose operational difficulties for JTA, potentially decreasing transit travel times for bus routes that travel along Mayport Road.

Based on the above reasons, the TSC decided not to include bus pullouts.

E. Typical Sections for Existing Right of Way

The decision to provide designated bicycle lanes and the desire to have a raised, planted median requires that the curbs be reconstructed for the center and north segments of Mayport Road, from Church Road to Wonderwood Drive. The study team and TSC considered several alternative typical sections along Mayport Road. All Alternatives considered for the 100-foot right of way portion of Mayport Road, north of Church Road, include raised medians and bicycle lanes. The tradeoff between a wide median for landscaping and a wide border area for landscaping and sidewalks with 11-foot and 12-foot lane widths are described below and shown in Figures 7 through 12.
Alternative A - Maximum Median/Minimum Border, 11-Foot Travel Lanes

Figure 7 displays a maximum median and minimum border with using 11-foot travel lanes. Eleven-foot travel lanes, as opposed to 12-foot travel lanes should help to slow traffic down and therefore, can be considered a traffic calming measure. Using this alternative would require the outside curbs to be pushed back to allow space for a 28-foot, raised median and 4-foot bicycle lanes. Advantages to this alternative include increased landscaping space and increased traffic separator space to provide a pedestrian refuge. However, a tradeoff with the wide median is a very limited 6-foot border area for utilities and sidewalks, with no border planting area.

Alternative B – Balanced Median and Border, 11-Foot Travel Lanes

Figure 8 displays a relatively balanced median and border using 11-foot travel lanes. This alternative would require the outside curbs to be pushed back to allow space for both the median and 4-foot bicycle lanes. As in alternative A, 11-foot travel lanes will help to slow traffic down. This alternative provides for a 15-foot, raised median and still allows for a 12.5-foot border area, consisting of a 4-foot area for utilities and landscaping and an 8-foot sidewalk. A benefit of this is the additional space available within the right of way for a wide sidewalk and border planting area. The amount of border space in alternative B is more than double the border space available in alternative A.

Alternative C – Minimum Median/Maximum Border, Concrete Separator, 11 Foot-Travel Lanes

Figure 9 displays the resulting typical with a concrete separator and 11-foot travel lanes. This alternative would require the outside curbs to be pushed back to allow space for both an 11-foot, raised median and 4-foot bicycle lanes. As in previously described alternatives, 11-foot travel lanes will help to slow traffic down. This alternative, a stamped concrete traffic separator, would not include landscaping but would allow space for protection of pedestrians. The border area for utilities, landscaping and sidewalks has a very generous 14.5-foot width.
Mayport Road Access Management Study

Typical Section Alternative A
Maximum Median/Minimum Border
With 11-foot Lanes

Figure 7
Balanced Median and Border with Minimum Grass Traffic Separator

100 Foot Right of Way Section with Bike Lanes & 11 Foot Travel Lanes
Minimum Median Maximum Border With Minimum Concrete Traffic Separator

100 Foot Right of Way Section with Bike Lanes & 11 Foot Travel Lanes

8' 6.5' 4' 4' 4' 4' 4' 6.5' 8'
Alternative D - Maximum Median/Minimum Border, 12-Foot Travel Lanes

Figure 10 displays a maximum median/minimum border alternative, using 12-foot travel lanes. This alternative would require the outside curbs to be pushed back to allow space for a 24-foot, raised median and 4-foot bicycle lanes. Advantages to this alternative include increased raised median landscaping space. A tradeoff with the wide median and 12-foot lanes is a limited 6-foot border area for utilities and sidewalks, with no border planting area.

Alternative E – Balanced Median and Border, 12-Foot Travel Lanes

Figure 11 displays a relatively balanced median and border using 12-foot travel lanes. Using this alternative, like most other alternatives, would require the outside curbs to be pushed back to allow space for a 16-foot, raised median and 4-foot bicycle lanes. This alternative provides sufficient room for median landscaping. Again the tradeoff with the wide median and 12-foot lanes is reducing the border space available for utilities and an 8-foot sidewalk with no border planting area.

Alternative F - Concrete Separator, 12-Foot Travel Lanes

Figure 12 displays a minimum median, maximum border alternative using 12-foot travel lanes. This alternative would require curbs to be reconstructed to allow space for a 12-foot, raised median and 4-foot bicycle lanes. The traffic separator would not include landscaping but would allow just a minimal amount of space for protection of pedestrians. For utilities, landscaping and sidewalks a 12-foot border area would be provided, allowing a 4-foot planted area and 8-foot sidewalk.

After evaluating the advantages and disadvantages of each alternative, the study team agreed that Alternative B Balanced Median and Border with 11-foot travel lanes, would be the best alternative for Mayport Road. Alternative B incorporates a landscaped median, bicycle lanes and wide sidewalk and border planting area. It also uses 11-foot travel lanes to encourage slower vehicular speeds. All alternatives require the addition of U-turn cutouts previously discussed.
Maximum Median Minimum Border with Maximum Grass Traffic Separator

100 Foot Right of Way Section with Bike Lanes & 12 Foot Travel Lanes

100'

Figure 10
Mayport Road Access Management Study

Typical Section Alternative E
Balanced Median and Border
With 12-foot Lanes

Figure 11
Page 30
Minimum Median Maximum Border with Minimum Concrete Traffic Separator

100 Foot Right of Way Section
with Bike Lanes & 12 Foot Travel Lanes
V. RECOMMENDED PLAN AND IMPROVEMENTS

The recommended plan illustrated in Figure 13, sheets 1 through 12 incorporate the improvements described in this section. Additionally the plan and improvements meet the major objectives of the Mayport Road Access Management Study listed below.

- Manage Access to and from Land Uses
- Improve Safety
- Encourage Development of a Bikeway/Pedestrian Corridor
- Coordinate with Existing Urban Design Redevelopment Efforts (i.e., the Mayport Road Corridor Study)
- Address Post Office Access Improvements
- Coordinate with Wonderwood/Mayport Intersection Improvements
- Coordinate with Mayport Naval Station

A. Access Management Improvements

1. Raised Median

The FDOT access management classification of Mayport Road should be changed from class 6 non-restrictive to class 5 restrictive. The FDOT Arterial Access Management Classifications and Standards are shown in Table 8. This change would facilitate the installation of a raised median with desirable criteria for signal spacing and full median openings at 1,320-foot intervals, directional median openings at 660-foot intervals and driveway connections at 245-foot intervals.
### Table 8 FDOT Arterial Access Management Classifications and Standards for Controlled Access Roadways

<table>
<thead>
<tr>
<th>Access Class</th>
<th>Medians&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Connection Spacing (Ft.)</th>
<th>Median Opening Spacing (Ft.)</th>
<th>Signal Spacing (Ft.)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>&lt; 45 mph</td>
<td>&gt; = 45 mph</td>
<td>Directional</td>
<td>Full</td>
</tr>
<tr>
<td>2</td>
<td>Restrictive with service roads</td>
<td>1320</td>
<td>660</td>
<td>1320</td>
<td>2640</td>
</tr>
<tr>
<td>3</td>
<td>Restrictive</td>
<td>660</td>
<td>440</td>
<td>1320</td>
<td>2640</td>
</tr>
<tr>
<td>4</td>
<td>Non-restrictive</td>
<td>660</td>
<td>440</td>
<td>2640</td>
<td>2640</td>
</tr>
<tr>
<td>5</td>
<td>Restrictive</td>
<td>440</td>
<td>245</td>
<td>660</td>
<td>2640 for &gt; 45 Mph; 1320 for &lt; or = 45 mph</td>
</tr>
<tr>
<td>6</td>
<td>Non-Restrictive</td>
<td>440</td>
<td>245</td>
<td></td>
<td>1320</td>
</tr>
<tr>
<td>7</td>
<td>Both median types</td>
<td>125</td>
<td>330</td>
<td>660</td>
<td>1320</td>
</tr>
</tbody>
</table>


---

<sup>1</sup> Restrictive" means to physically prevent vehicle crossings. Directional median openings only allow specific movements, such as left turns or U turns. Full median openings allow all turning movements. Non –restrictive allows turns across at any point.
This modification, together with the Balanced Median and Border typical section with 11-foot lanes (Alternative B), is recommended for several reasons. First, two objectives of the study are to manage access and improve safety on Mayport Road. The installation of a raised median will reduce the number of vehicle conflicts and provide a pedestrian refuge area. As shown in the following table the number of vehicle conflict points would be significantly reduced while still maintaining a relatively high driveway density average of 40 driveways per mile.

**Table 9  Flush vs Raised Conflict Point Comparison**

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>NUMBER</th>
<th>CONFLICT POINTS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>FLUSH MEDIAN</td>
<td>RAISED MEDIAN</td>
<td></td>
</tr>
<tr>
<td>Signalized</td>
<td>10</td>
<td>204</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td>Unsignalized</td>
<td>32</td>
<td>402</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>Driveways</td>
<td>133</td>
<td>1,464</td>
<td>266</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>2,070</td>
<td>614</td>
<td></td>
</tr>
</tbody>
</table>

Additionally, the character of travel on Mayport Road is through traffic serving the Naval Station, the posted speed of 45 miles per hour and an anticipated Average Daily Traffic volume in the range of 24,000 vehicles with the opening of the Wonderwood Connector, all point to the need for a raised median.
Recommended Plan

- Possible Adjustment
- Possible Closure
- Possible Inter-parcel Access

Mayport Road Access Management Study

Phase I, Initial Planning and Design Study

Recommended Plan and Improvements

October 2003
Figure 13
Sheet 10 of 12
Page 35.10
2. Driveway Adjustments

As previously discussed, the more driveway openings located along an arterial, the more vehicle conflicts and the more potential for crashes. The study team identified several obvious opportunities along Mayport Road for driveway adjustments. Suggested adjustments were grouped into one of three categories, possible adjustments, possible closures and possible inter-parcel connections. The recommended plan shows eleven possible driveway adjustments, seventeen possible driveway closures and six locations for inter-parcel access. Figure 14 illustrates an example of cross parcel access, a more detailed evaluation of driveway adjustments should occur during design.

B. Lane Reductions

The south segment of Mayport Road, from Atlantic Boulevard to Church Road, should be reduced from six travel lanes to four travel lanes. This lane reduction is possible because the future traffic volumes on Mayport Road with opening of the Wonderwood Connector will be approximately 34,600 vehicles daily in 2025. A 4-lane divided roadway would accommodate these volumes.

Additionally, operational changes to the at-grade signal of Atlantic Boulevard and Mayport Road are also recommended. The northbound lane configuration at this intersection should be changed to provide an exclusive left-turn lane, a single through-lane and an exclusive right-turn lane. North of Atlantic Boulevard the westbound right-turn lane should have a dedicated acceleration lane that joins the single northbound through-lane to form two northbound travel lanes. These two lanes would merge into a single northbound lane. This single lane would continue north and would join the single northbound lane from the Atlantic Boulevard Flyover to form two northbound travel lanes. These improvements are shown on Figure 13, sheets 1 and 2.
Cross Parcel Opportunity

Cross Parcel Concept Plan

Typical Cross Parcel Access

Cross Parcel Access
C. Pedestrians, Bicycles and Transit

A 4-foot dedicated bicycle lane is recommended. Placing 4-foot bicycle lanes along Mayport Road improves bicycle safety and increases Mayport Road’s potential for linking with existing bikeways within northeast Florida. Discussion with the TSC, as well as information from the Beaches Bikeway Report and input from meetings with the public revealed a general desire within the community to improve bicycle and pedestrian movement along Mayport Road. Currently, a bikeway is planned from Fernandina Beach to St. Augustine. The City of Atlantic Beach also desires a bicycle corridor along Mayport Road. Additionally, increasing to 8-foot sidewalks creates added capacity for pedestrians, as well as more community-oriented bicycle use. The committee preferred both wider sidewalks, to accommodate pedestrians and children on bikes and designated bicycle lanes on Mayport Road to accommodate the more skilled and serious bike rider.

D. U-turns

U-turn cutouts are recommended at every median opening. U-turn cutouts should not require additional right of way. The U-turn movements would be designed to accommodate passenger vehicles. No arterial street with a median accommodates large trucks (18-wheelers) desiring to make U-turn movements. Large trucks will need to plan their routes to avoid the need for U-turns. Goods distributors and business suppliers may also be able to use smaller delivery vehicles.

E. Typical Sections

1. South Segment

Two typical sections are recommended for the south segment. North of the Atlantic Boulevard Flyover to 8th Street, where there is a 120-foot right of way, two 17-foot raised, planted medians can be installed without outside curb reconstruction. A dedicated 4-foot bicycle lane can be provided as well as two 11-foot lanes southbound and two 11-foot lanes northbound. The 5.5-foot border area for utilities and sidewalks would not change. Additional space for pedestrians would need to come from a landscape and pedestrian easement that would be part of the Zoning Overlay Ordinance recommended in other reports. Figure 15 shows the recommended typical section.

At 8th Street, where there is a 100-foot right of way and the Atlantic Boulevard Flyover becomes the second northbound travel lane, a 22-foot raised, planted median can be installed without reconstruction of the outside curbs. Four 11-foot travel lanes and 4-foot
dedicated bicycle lanes can be implemented. A 9-foot border area would be provided for utilities and sidewalks. The pedestrian and landscape easement that would be part of the Zoning Overlay Ordinance would provide for a more generous border area. Figure 16 shows the recommended typical section.

2. **Center and North Segments**

   The recommended typical section median concept is to construct 15-foot wide medians. The typical section provides four 11-foot wide through-traffic lanes, two 4-foot wide bicycle lanes and two 12.5-foot buffer areas that include two 8-foot wide sidewalks and a 4.5-foot planting area. The outside curbs and drainage system must be modified in order to accommodate the median treatment and bicycle lanes. 17 illustrates the recommended typical section.

   **Bus Pullouts**

   Bus pullouts are not recommended for Mayport Road. The installation of bus pullouts would require additional right of way for bus shelters and sidewalks. Buses also have a more difficult time re-entering the traffic stream on high-speed roadways. Posted speeds along Mayport Road are 45 mph. Finally, placing bus pullouts along the roadway at only selected far side bus stops would not give drivers a clear expectation of when buses would be stopping in the roadway. Placing bus pullouts at every bus stop is cost prohibitive because of additional right of way and would create an undesirable border area.
F. Lighting and Landscaping

Recommended lighting in the Mayport Road Corridor includes both FDOT approved roadway and pedestrian lighting. It is suggested that light poles with interchangeable pole heights be used to accommodate the FDOT 25-foot minimum height requirement for roadway lighting. It is also suggested that a design theme be utilized that will add interest and identify to the corridor. The Jacksonville Electric Authority (JEA) currently stocks a variety of light poles. However, none of the more decorative acorn, post top or carriage top light poles contained within their construction standards manual appear to meet FDOT height requirement, and it is unlikely that Mayport Road, between Atlantic Boulevard and Wonderwood Drive would be granted a variance. Therefore, it is further recommended that JEA work with the City of Atlantic Beach and the city of Jacksonville to agree on light poles for Mayport Road that will meet FDOT standards and that JEA is willing to install, stock and maintain. Examples of decorative light poles the community may want to consider are contained in Figure 18.

The recommended landscaping concept is illustrated on Figure 19. Generally, north of Church Road, evergreen and flowering trees are spaced at approximately 40-foot intervals within the median, with native shrubs and groundcover planting placed between the trees. Additionally, groundcover planting or grass is proposed for the area between the roadway and sidewalk. Stamped decorative colored concrete is recommended for the 4-foot traffic separator portion of the median at intersections and median openings. Typical flowering trees would potentially include Crape Myrtle, Ligustrum and ‘East Palatka’ Holly. Typical shrubs would potentially include Dwarf Lantana, Daylilies, Florida Coontie and St. Johns Wort. Typical groundcover planting would potentially include Gamagrass, Shore Juniper, Society Garlic, Sand Cord Grass, Muhly Grass, Beach Sunflower and Coreopsis.

Landscaping in the area just north of the Atlantic Boulevard Flyover would emphasize the concept of creating an entryway to Mayport Road by placing ‘Medjool’ Date Palm trees at 40-foot intervals in the median. Between the trees, native shrubs and groundcover planting are recommended. Figure 20 illustrates a before and after rendered photo of the view that vehicles entering Mayport Road would see from the Atlantic Boulevard Flyover.
Examples of Decorative Light Poles
Before and After Views From the Atlantic Boulevard Flyover

Before

After
G. Consistency and Other Improvements

1. Mayport Road/Wonderwood Drive Intersection
The Jacksonville Transportation Authority (JTA) is planning improvements for the Mayport Road-Wonderwood Drive intersection in late 2005 or early 2006, about a year after the Wonderwood Connector opens. A flyover, or elevated roadway, is being considered at the Mayport Road-Wonderwood Drive intersection. This option was the favorite of several options presented to the public by JTA. The improvement will reduce anticipated traffic congestion, safety and access to Mayport Naval Station. The plan is for a single-lane flyover roadway for eastbound Wonderwood Drive traffic turning left, (northbound), to the Naval Station. It is anticipated that, the interchange would be built at the earliest, by 2015.

The anticipated design year of 2005/2006 for the Mayport Road-Wonderwood Drive intersection will give JTA time to evaluate traffic flow after the opening of most of the Wonderwood Connector, which is being constructed in phases. The Wonderwood Connector Phase I, from Mayport Road over the Intra-coastal Waterway to Girvin Road is expected to open in November 2003. Phase II, a four-lane segment going west to Monument Road is scheduled to open in November 2004. Phase III, the last segment, will extend to SR 9A and is scheduled to open in 2005. The 2005/2006 design year will also give the Navy additional time to design and relocate its main security gate at Mayport Naval Station farther south on Mayport Road. Since the design of these improvements has not been completed, the recommended typical section for Mayport Road north of Church Road is assumed to continue through the Wonderwood Drive at-grade intersection to the Mayport Naval Station Property. Close coordination with the JTA and the Mayport Naval Station will be required during design.

2. Post Office Access Improvements
The recommended median concept accommodates existing plans by the US Postal Service and the City of Atlantic Beach to relocate the main post office driveway to Plaza Drive. A median traffic separator is planned for Mayport Road. The City of Atlantic Beach has been working closely with the post office and the Jacksonville Transportation Authority to accomplish the access improvements. This access study is consistent with the post office access plans. The post office has identified the access management improvement shown in Figure 21. As shown in this figure, internal circulation improvements would provide for full access from Plaza Drive. Construction of a traffic separator on Mayport Road would require southbound traffic to access the post office from Plaza Road.
VI. IMPLEMENTATION, FUNDING, PARTNERS AND CONSTRUCTION COSTS

A. Implementation

The implementation of the recommended access management plan and improvement is recommended in phases. The phasing of the project will spread the financial burden over several years while providing improved access management and landscaping to encourage redevelopment along Mayport Road. Five phases of about $1 million dollars each have been identified.

The first phase recommended for implementation is the south segment. This segment extends from Atlantic Boulevard to Church Road. This segment is recommended because it can be implemented without reconstruction of outside curbs or drainage modifications. Additionally, this segment provides the visual “gateway” to Mayport Road, which is critical to changing the urban character. It is hoped that its completion will spur redevelopment along Mayport Road.

B. Funding Partners

Anticipated local funding sources from the City of Jacksonville’s Town Center Initiative Grant Program, the City of Atlantic Beach and FDOT would be needed to implement the project.

The City of Jacksonville Town Center Initiative is intended to revitalize older neighborhoods by providing planning, design and infrastructure improvements to public spaces along key business areas and corridors [http://coj.net]. The goals of this program are to: (1) Enhance both the visual appeal and physical infrastructure in older neighborhoods’ commercial areas and corridors; (2) Feature community visioning and planning; (3) Encourage public/private partnerships; and (4) Leverage public dollars by coordination with the Better Jacksonville improvements in the areas. The program provides funding for improvements to: (1) Commercial areas of neighborhoods that are 30 years or older and experiencing decline; or (2) Highway corridors with commercial areas that are 30 years or older and experiencing decline. The corridor must be classified as a collector or higher roadway.

Discussions with the FDOT District 2 staff identified that FDOT resurfacing funds and signal improvement funds may be available for use as partial funding. Close coordination with FDOT regarding funding and improvements will need to occur during the design.

FDOT District 2 Urban Office has indicated their willingness to consider signal upgrades and milling and resurfacing as their share. The signal upgrades are part of the Districts plan to
replace span wire, supported signals with steel mast arm signal supports, east of the inter-coastal water for hurricane safety.

C. Construction Cost Estimates
The Engineer’s estimates of probable construction costs were prepared for the recommended access management plan and improvements. As discussed above, the proposed improvement project is planned for implementation in five phases. The cost for each phase is roughly $1 million dollars. Table 10 details the estimated cost by phase and the amount each implementing partner would need to contribute. The shared costs between the City of Atlantic Beach and the City of Jacksonville were estimated using the proportion of Mayport Road in each municipality as shown in Figure 22. Costs for recommended improvements include construction, signal improvements, milling, resurfacing, and landscaping and drainage modifications. Construction, milling and resurfacing costs are based upon FDOT Statewide averages as of November 2002 and inflated by 6.8% to 2005 dollars based on *FDOT Long Term Construction Cost Inflation Forecast*.
### Table 10 Estimated Cost of Mayport Road Improvements

<table>
<thead>
<tr>
<th>CORRIDOR SEGMENT</th>
<th>ESTIMATED COST</th>
<th>PROJECT SHARE</th>
<th>ANTICIPATED IMPLEMENTING PARTNER(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atlantic Blvd. to Church Rd. (approx. 1.25 miles)</td>
<td>$271,000</td>
<td>Median (1)</td>
<td>City of Atlantic Beach&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$400,000</td>
<td>Landscaping (3)</td>
<td>($671,000)</td>
</tr>
<tr>
<td></td>
<td>$413,000</td>
<td>Resurfacing (2)</td>
<td>FDOT&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$1,084,000</td>
<td>Phase I Total</td>
<td></td>
</tr>
<tr>
<td><strong>Phase II</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Church Rd. to Fairway Villas Dr. (approx. 1.00 mile)</td>
<td>$508,500</td>
<td>Median (1)</td>
<td>City of Atlantic Beach ($329,250)&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$150,000</td>
<td>Landscaping (3)</td>
<td>City of Jacksonville ($329,250)&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$349,000</td>
<td>Resurfacing (2)</td>
<td>FDOT&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$1,007,500</td>
<td>Phase II Total</td>
<td></td>
</tr>
<tr>
<td><strong>Phase III</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairway Villas Dr. to SR A1A (approx. 1.05 miles)</td>
<td>$508,500</td>
<td>Median (1)</td>
<td>City of Atlantic Beach ($329,250)&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$150,000</td>
<td>Landscaping (3)</td>
<td>City of Jacksonville ($329,250)&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$349,000</td>
<td>Resurfacing (2)</td>
<td>FDOT&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$1,007,500</td>
<td>Phase III Total</td>
<td></td>
</tr>
<tr>
<td><strong>Phase IV</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SR A1A to Gavagan Rd. (approx. 1.00 mile)</td>
<td>$509,000</td>
<td>Median (1)</td>
<td>City of Jacksonville&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$150,000</td>
<td>Landscaping (3)</td>
<td>($659,000)</td>
</tr>
<tr>
<td></td>
<td>$311,000</td>
<td>Resurfacing (2)</td>
<td>FDOT&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$970,000</td>
<td>Phase IV Total</td>
<td></td>
</tr>
<tr>
<td><strong>Phase V</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gavagan Rd. to Wonderwood Dr. (approx. 1.00 mile)</td>
<td>$509,000</td>
<td>Median (1)</td>
<td>City of Jacksonville&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$150,000</td>
<td>Landscaping (3)</td>
<td>($659,000)</td>
</tr>
<tr>
<td></td>
<td>$311,000</td>
<td>Resurfacing (2)</td>
<td>FDOT&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>$970,000</td>
<td>Phase V Total</td>
<td></td>
</tr>
<tr>
<td><strong>Summary</strong></td>
<td>$1,329,500</td>
<td>Total Local Cost for the City of Atlantic Beach</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$1,976,500</td>
<td>Total Local Cost for the City of Jacksonville</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$1,733,000</td>
<td>Total FDOT Cost</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$5,039,000</td>
<td>Total for Phase I through Phase V</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> Construction of Median, Reconstruction of Curbs, AND Drainage Modifications;

<sup>2</sup> Milling, Resurfacing and Signalization;

<sup>3</sup> Estimated landscaping cost includes irrigation and electricity in the median.