Multi-Modal Transportation Study for Effingham County

APPENDICES TO FINAL REPORT

July 2008

Prepared for: GDOT Keeping Georgia on the Move Office of Planning

by JACOBS Carter Burgess

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APPENDIX A. Public Involvement Documentation

Summary of Stakeholder Input

The consulting team and Georgia Department of Transportation representatives identified and interviewed twenty-two community leaders regarding transportation issues and improvement priorities. These stakeholders' responses to detailed questions about Effingham's transportation system are located at the end of this appendix. The following stakeholders were interviewed:

Name	Title	Affiliation
John Henry	Director and CEO	Effingham County Chamber of Commerce *and* Economic Development Authority
Charles Hinely	Councilman	City of Springfield *and* Effingham County Economic Development Authority
Delmons White	Pastor	Macedonia Baptist Church *and* Effingham County Economic Development Authority
Adam Kobeck	Assistant County Administrator	Effingham County
George Shaw	Planner	Effingham County
Steve Liotta	Engineer	Effingham County
David Crawley	Zoning Administrator	Effingham County
Lowell Morgan	Public Works Director	Springfield
Brett Bennett	City Manager	Springfield
Donald Toms	City Manager	City of Rincon
LaMeisha Hunter	City Planner	City of Rincon
Walter Wright	Fire Department	Effingham County
Jimmy McDuffie	Sheriff	Effingham County
Richard Bush	Chief Deputy	Effingham County
Val Ashcraft	Fire Chief	Effingham County
Homer Wallace	President	NAACP – Effingham County
Lucy Powell	Secretary	NAACP – Effingham County
Randy Shearhouse	Superintendent	Effingham County Board of Education
Ed Brown	Chief Financial Officer	Effingham Hospital
Carrie Thompson	Public Affairs Manager	Georgia Pacific
Jay Ryczkowski	Engineering Manager	Georgia Pacific
Brent Howell	Manager, Government Affairs	Georgia Pacific

The following overarching themes of the stakeholder interview are listed below:

- Effingham County is experiencing significant population growth that is going to continue and it must be planned and controlled.
- Need more balance between people/housing and jobs and between the southern and northern portion of the county.
- Traffic congestion is a critical challenge in certain transportation corridors that requires immediate action to prevent gridlock in those corridors.
- The existing transportation system does not adequately support land use.
- Truck traffic is a major concern. However, there are several additional routes proposed to address the problem.

Summary of Public Questionnaire Responses

Questionnaire responses were received from fifteen Effingham citizens. Although this is not a statistically significant quantity, the comments do provide an insight into the issues that are important to people, and there are some clear commonalities in where people see the most immediate problems as being. Of the fifteen respondents, twelve were employed, two were retired, and one was disabled and not working. As can be seen in **Table A.1**, only one of the twelve employed respondents worked in the same area as they lived. Two respondents from Unincorporated Effingham County cited more than one area in which they worked. The majority of respondents lived in Effingham and worked in Chatham, mirroring trends shown in US Census data for the area.

		EMPLOYMENT						
	LOCATION	City of Springfield	City of Rincon	City of Guyton	Unincorp. Effingham County	Chatham County	Other Location	ALL Home Locations
HOME	City of Springfield					1		1
	City of Rincon					4		4
	City of Guyton							
	Unincorporated Effingham County		1		1	5	2	9
	ALL Employment Locations		1		1	10	2	14

Table A.1 Public Questionnaire Respondents Place of Employment and Residence

The first question was: *"What are your visions and goals for Effingham County? (Include live, work, play, shop, education, growth)"*. **Figure A.1** summarizes the results.

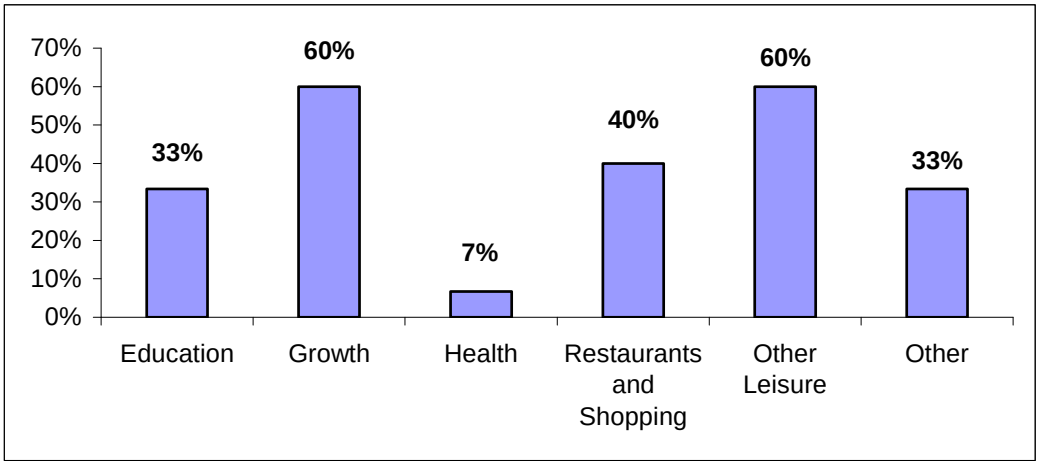

Figure A.1 Goals and Objectives for Effingham County

(Figures do not total 100% because people could provide several goals and objectives)

Of the nine responses relating to growth, four specified the area of jobs and industry, and two specified environmentally sensitive or continued but slower growth. Of the nine responses on *other leisure*, two specified young people or families, and three specified more parks.

Respondents were then asked to choose three issues from a list corresponding to the question: *"What do you think are the most critical problems the county will face over the next 25 years?"* Their responses are shown in **Figure A.2.**

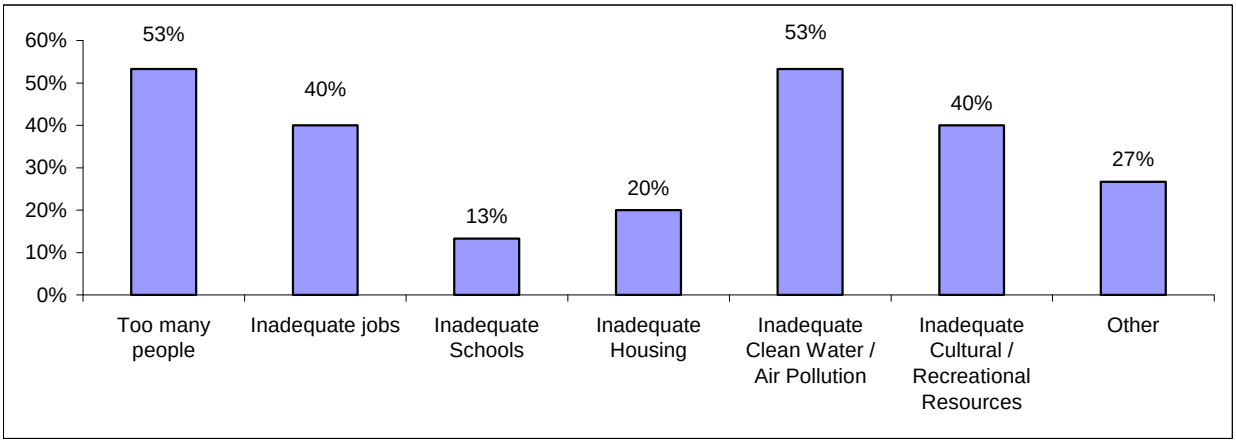

Figure A.2 Critical problems over the next 25 years

(figures do not total 100% because people could make up to 3 choices)

Respondents selected a range of the available issues, though *too many people* and *inadequate clean water/air pollution* were the joint-favorites, closely followed by jobs and cultural/recreational resources. The issues specified by the five people answering *Other* included traffic, high taxes, less traffic signals, limiting developments that generate a lot of traffic, and the condition of rented property.

Traffic and congestion was an almost unanimous response to the question: *"what are the major transportation problems you face as you move about Effingham County on a day-to-day basis?"* Twelve comments relating to congestion were received, of with over half specifying SR 21. Other comments mentioned better road maintenance, bottlenecks, throughways and stop lights, and better road safety and pedestrian crossing facilities.

The questionnaire then asked: *"Identify areas in the existing transportation network that you feel need immediate attention."* Twelve people responded to this, and 10 of those responses mentioned SR 21. Four of these mentioned the need for widening of SR 21 or for a North-South alternative to provide relief for the I-95 interchange at SR 21 and SR 21 north of Rincon. Other responses included a need for door-to-door transit to serve the handicapped population.

Finally people were asked to make four choices from a list in response to the question: *"What do you believe are the most critical transportation needs in Effingham County?"*

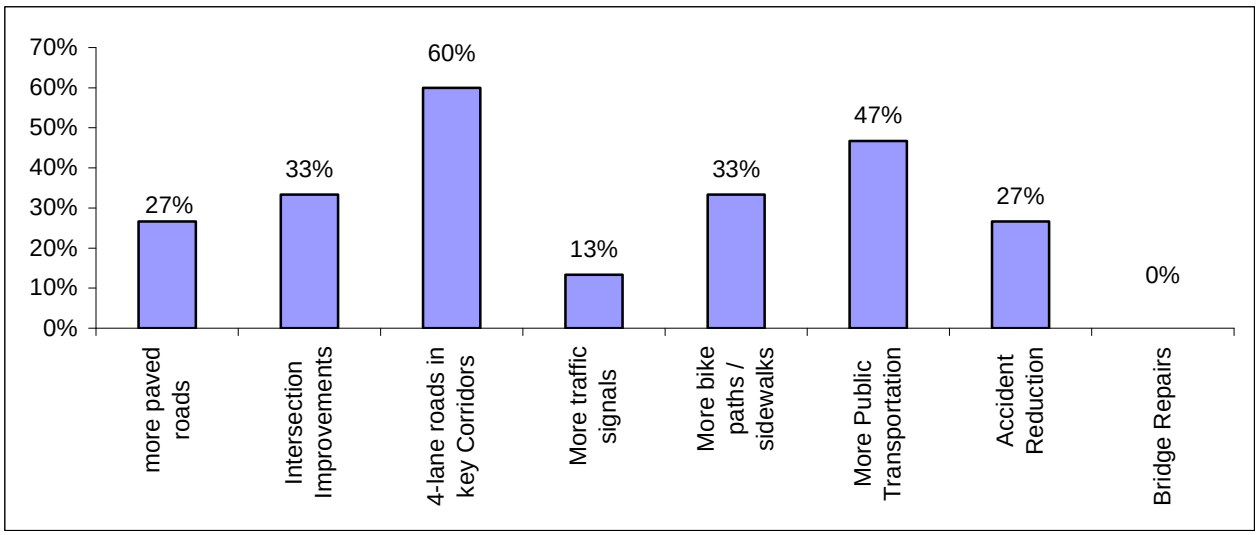

Figure A.3 Critical transportation needs in Effingham County

(figures do not total 100% because people could make up to 4 choices)

As illustrated in **Figure A.3**, 60% of respondents were in favor of 4-lane highways, citing SR 17, SR 21, SR 30, Midland Road, Blue Jay Road, and Old Augusta Road in response to the request to identify which corridors should be 4-lane. 33% also felt intersection improvements were critical. 47% felt that more public transportation was a priority.

Detailed Stakeholder Interviews

Stakeholder interviews are an integral part of the citizen participation plan and the outreach strategy for the Multi-Modal Countywide Transportation Study for Effingham County. Stakeholder interviews were conducted to ensure that key stakeholders in the County and cities were knowledgeable of the study and provided input into the process. The purpose of the briefings/interviews was to ensure that the leadership of the community had a working knowledge of the study, including its purpose and need, the expected outcome, the process and the timetable. In this way, the leadership was equipped to assist in reaching out to the general public. Further, the stakeholders provided feedback on major issues related to transportation projects, policies and prioritization. During the interviews, stakeholders were also asked to assist in the promotion of the study by recommending names of citizen groups, community leaders and business leaders and by using their communication networks to encourage participation from all citizens and stakeholders throughout the study area.

Twenty-two stakeholders were interviewed and a record of the actual interviews is recorded in the last section of this report. Joint interviews were conducted in some cases, resulting in ten interview reports.

Overarching Themes

Overarching themes of the stakeholder interviews are listed below:

- Effingham County is experiencing significant population growth that is going to continue and it must be planned and controlled.
- Need more balance between people/housing and jobs and between the southern and northern portion of the county.
- Traffic congestion is a critical challenge in certain transportation corridors that requires immediate action to prevent gridlock in those corridors.
- The existing transportation system does not adequately support land use.
- Truck traffic is a major concern. However, there are several additional routes proposed to address the problem.

Recurring Themes

Recurring themes of the stakeholder interviews are listed below:

- Strong support for the following projects:
  - Effingham Parkway
  - I-16 Interchange at Old River Road
  - Rincon By-Pass (Old Augusta Road)
  - SR 21 corridor needs a variety of transportation improvements, ranging from traffic signalization (including traffic synchronization) to capacity expansion
  - Ft. Howard Road need to be expanded to four lanes with sidewalks

- SR 119 needs to be expanded to four lanes, especially because of school traffic. School trips also support the need for sidewalks and bike paths

- SR 119 By-Pass is needed to reduce truck traffic into downtown Springfield

- Truck traffic is a major concern that can be addressed by the Rincon By-Pass, Effingham Parkway and SR 119 By-Pass projects

- Congestion on US 80 is a major concern

- No significant need for traditional transit, but paratransit service need to be expanded for seniors and disabled persons. Further, limited shuttle or subscription needs bus service is needed for citizens without cars, especially for work trips. Carpooling and vanpooling should be considered along the SR 21 corridor.

- Roadways in the northern part of Effingham County need more attention (too many dirt roads and poorly maintained roads)

INDIVIDUAL STAKEHOLDER INTERVIEW SUMMARY REPORTS

See following pages.

Stakeholder Interview Summary Report Form

Interviewees: **John Henry, Director of Effingham County Chamber of Commerce and CEO of Effingham County Industrial Development Authority; Charles Hinely, Industrial Development Authority and Councilman, City of Springfield; Reverend Delmons White, Industrial Development Authority and Pastor, Macedonia Baptist Church**

Date of Interview: October 24, 2007

Interviewer: Richard Fangmann

Attendees: Radney Simpson, GDOT; Kyle Mote, GDOT; Theodore R. Williams, DW & Associates

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Interview Summary

1. **What, in your opinion, will be the top three most critical transportation issues facing Effingham County and its cities over the next 25 years?**

   a. Effingham Parkway is most important for the county and the I-16 interchange at Old River Road is most important for the Industrial Development Authority. The main issue is accommodating future growth

2. **How do you feel about the rate of growth taking place in the county (the city)? How do you feel about the type of growth? Growing too fast? Too slow? OK? Too much residential? Not enough industry?**

   a. The County is growing at what the market will support. We need to create additional jobs to offset residential growth so fewer people must leave the County to work. There are three key development initiatives with which the Industrial Development Authority is involved:

      - Logisticenter – I-16 at Old River Road - Overall $6 million square feet – Now have developer for pods A and B - 1.7 million square feet. The developer will make road improvements near site. The County has prepared an IMR to improve the I-16 at Old River Road interchange. This is their number one priority. They are talking to other developers regarding the remainder of the area
      - Manufacturing Center north of Rincon – The property north of SR 275 and east of SR 21 will be developed into a manufacturing center with 600 jobs planned in the next year. Large vehicles leaving this plant for the Savannah port will need to travel north on SR 21 to SR 119, west to SR 17 then south to US 80 due to size and load. They anticipate one such shipment per month
      - Research Forest – This development area is located east of Rincon and will be served by SR 21 and Effingham Parkway. This will require grade separation of the CSX railroad at Fort Howard Road. The west area of the site could by a 1000-acre mega site for industrial development. Along the SR 21 corridor, light industrial and commercial development is planned. West of the railroad a research center and offices are planned, with heavy industrial along the Effingham Parkway corridor further west. The total size of the site is 2,600 acres and it is anticipated to generate 4000 to 6000 jobs

3. **Do you believe the existing transportation system adequately supports land uses in Effingham County? If not, what specific improvements would you make?**

   a. No, existing congestion along SR 21 in Rincon is a problem, as well as along US 80. The Rincon Bypass, Effingham Parkway, and I-16 at Old River Road interchanges will help solve the problem

4. **Are you experiencing delays or difficulty in traveling to and from different parts of the county or in and out of the county? If so, Please indicate where and when do the most serious delays occur?**

   a. The most serious delays are along the SR 21 corridor in Rincon and at I-95. Increased port activity will make these conditions worse

5. **Identify areas in the current transportation network that you feel are most in need of immediate attention. Include safety concerns.**

   a. See No. 3 above

6. **In your opinion, is there a need for modes of transportation in addition to the private automobile? Specify.**

   - The population is not dense enough to support traditional transit. The Coastal Georgia RDC has a demand responsive transit system that may need to be expanded
   - Carpool and vanpool programs may be possible for traffic traveling to/from Port and Gulfstream

7. **Do you see any issues associated with parking, pedestrians and/or bicycle facilities in Effingham County? If yes, what issues do you see and where?**

   - The main focus for the Industrial Development Authority is on major traffic movements and getting employees to jobs. Due to lower development density in this area, these are not compatible with walking and bicycling in most cases

8. **Are there issues related to truck traffic, and if so, what and where? Are adequate routes available for trucks to effectively transport goods? Are additional alternate truck routes needed?**

   - Truck traffic through Rincon is an issue. The Rincon Truck Bypass will help reduce this load. In addition, the Research Forest development area, east of Rincon will need to rely on Effingham Parkway for movement of truck traffic

9. **In your opinion, does the current road system meet your transportation needs? If not, where should transportation improvements take place?**

   - See no. 3 above

10. **Are you aware of any Environmental Justice populations (low income, minority, disabled, elderly), groups or neighborhoods in your area that should be contacted by the project team?**

    - There is a need for expanded paratransit to serve unserved needs

Stakeholder Interview Summary Report Form

Interviewees: Rev. Delmons White, Pastor – Macedonia Baptist Church and member of Effingham County Industrial Development Authority (Supplemental to the Interview with John Henry, Effingham County Industrial Development Authority)

Date of Interview: October 24, 2007 and November 9, 2007

Interviewer: Theodore R. Williams

Interview Summary

1. **What, in your opinion, will be the top three most critical issues facing Effingham County and its cities over the next 25 years?**
   - Old Augusta Road Improvement (Rincon Bypass) – concerned about potential impact on residents and cemetery
   - Chimney Road – need traffic signal, especially because of school bus traffic
2. **How do you feel about the rate of growth taking place in the county (the city)? How do you feel about the type of growth? Growing too fast? Too slow? OK? Too much residential? Not enough industry?**
   - See ECIDA Interview
3. **Do you believe the existing transportation system adequately supports land uses in Effingham County? If not, what specific improvements would you make?**
   - See ECIDA Interview
4. **Are you experiencing delays or difficulty in traveling to and from different parts of the county or in and out of the county? If so, Please indicate where and when do the most serious delays occur?**
   - See ECIDA Interview
5. **Identify areas in the current transportation network that you feel are most in need of immediate attention. Include safety concerns.**
   - See ECIDA Interview
6. **In your opinion, is there a need for modes of transportation in addition to the private automobile? Specify.**
   - There is not a need for traditional public transit, but there is a need to examine the adequacy of existing paratransit services
7. **Do you see any issues associated with parking, pedestrians and/or bicycle facilities in Effingham County? If yes, what issues do you see and where?**
   - See ECIDA Interview

8. **Are there issues related to truck traffic on the road system, and if so, what and where? Are adequate routes available for trucks to effectively transport goods? Are additional alternate truck routes needed?**

   - See ECIDA Interview

9. **In your opinion, is spending on transportation adequate? If not, where would you spend more money?**

   - A traffic signal is needed at SR 21 and Chimney Road. Apparently, a recent study recommended that a traffic signal for SR 21 at McCall Road, but Chimney Road has a greater need

10. **Are you aware of any Environmental Justice populations (low income, minority, disabled, elderly), groups or neighborhoods in your area that should be contacted by the project team?**

    - Mr. Levi Scott of Concerned Citizens of Effingham County should be contacted (Mr. Scott is also a Councilman for the City of Rincon). Mr. Scott was contacted and agreed to promote the December 13th Public Meeting

Stakeholder Interview Summary Report Form

Interviewees: **Adam Kobeck, Effingham County Assistant County Administrator**

George Shaw, Effingham County Planner

Steve Liotta, Effingham County Engineer

David Crawley, Effingham County Zoning Administrator

Date of Interview: October 24, 2007

Interviewer: Richard Fangmann

Attendee: Radney Simpson, GDOT

Interview Summary

1. **What, in your opinion, will be the top three most critical transportation issues facing Effingham County and its cities over the next 25 years?**
   - Funding of transportation improvements
   - Limited capacity to/from Chatham County
   - Transportation planning coordination between Effingham, Chatham, and Bryan Counties
2. **How do you feel about the rate of growth taking place in the county (the city)? How do you feel about the type of growth? Growing too fast? Too slow? OK? Too much residential? Not enough industry?**
   - The County is excited about the growth and thinks it will be good for the County. There needs to be a balance between residential growth and employment opportunities
3. **Do you believe the existing transportation system adequately supports land uses in Effingham County? If not, what specific improvements would you make?**
   - The Effingham Parkway is needed to relieve traffic along SR 21, as well as the Rincon Bypass. The Old River Road interchange with I-16 needs to be upgraded. The County submitted and Interchange modification report to FHWA
   - The Effingham Parkway is a key corridor for the County. It is currently in the GDOT long range program for funding. The County would like to see that accelerated. The north and south connectors to the Effingham Parkway would follow construction of the Parkway
4. **Are you experiencing delays or difficulty in traveling to and from different parts of the county or in and out of the county? If so, Please indicate where and when do the most serious delays occur?**
   - SR 21 at I-95 causes considerable delay for County residents. US 80 also becomes congested, but is scheduled for improvement. This improvement will also relieve traffic at the SR 17 intersection with US 80

5. **Identify areas in the current transportation network that you feel are most in need of immediate attention. Include safety concerns.**
   - The Rincon area is currently congested. The Old Augusta Road improvements can help. Signal coordination is also important
6. **In your opinion, is there a need for modes of transportation in addition to the private automobile? Specify.**
   - There is a need to allow CATS to run a shuttle to the port along SR 21. The CATS authority would need a legislative change to allow this
   - An organized rideshare and vanpool program would be helpful. This should target trips to the Port and GulfStream
   - The County tried to organize staggered shifts with the port, but that did not work
   - The RDC is providing demand responsive transportation. This is a regional program in the pilot stages and will need to be expanded
7. **Do you see any issues associated with parking, pedestrians and/or bicycle facilities in Effingham County? If yes, what issues do you see and where?**
   - Pedestrian facilities are needed along Fort Howard Road and within Rincon. New signals have pedestrian crossings, but no sidewalks connecting them
   - A bike path is needed along SR 119 from Springfield to Guyton to serve trips to/from the schools
8. **Are there issues related to truck traffic, and if so, what and where? Are adequate routes available for trucks to effectively transport goods? Are additional alternate truck routes needed?**
   - The Rincon Truck Bypass is needed to relive some of the truck traffic through Rincon. Effingham Parkway will serve truck travel needs for the planned industrial site west or Rincon without adding truck traffic through Rincon
9. **In your opinion, does the current road system meet your transportation needs? If not, where should transportation improvements take place?**
   - The projects currently on the improvement program are needed and justified. These are necessary to meet future transportation needs
10. **Are you aware of any Environmental Justice populations (low income, minority, disabled, elderly), groups or neighborhoods in your area that should be contacted by the project team?**
    - The study team should contact Margaret Moore at Effingham County regarding Senior Transportation Issues

Stakeholder Interview Summary Report Form

Interviewees: Lowell Morgan, Springfield Public Works Director

Brett Bennett, Springfield City Manager

Date of Interview: October 24, 2007

Interviewer: Richard Fangmann

Attendee: Radney Simpson, GDOT

Interview Summary

1. **What, in your opinion, will be the top three most critical transportation issues facing Effingham County and its cities over the next 25 years?**
   - Implementation of projects that are already planned in county (such as Rincon Bypass, Effingham Parkway, SR 119 Bypass, and Springfield Streetscape/pedestrian access
2. **How do you feel about the rate of growth taking place in the county (the city)? How do you feel about the type of growth? Growing too fast? Too slow? OK? Too much residential? Not enough industry?**
   - We think the growth will have a positive effect on Springfield
3. **Do you believe the existing transportation system adequately supports land uses in Effingham County? If not, what specific improvements would you make?**
   - No, existing congestion is present along SR 21. The projects indicated in #1 above, will help relieve congestion
4. **Are you experiencing delays or difficulty in traveling to and from different parts of the county or in and out of the county? If so, Please indicate where and when do the most serious delays occur?**
   - The SR 119 corridor is experiencing growth. School traffic is likely to increase in this area with growth. Widening to four lanes may be needed
5. **Identify areas in the current transportation network that you feel are most in need of immediate attention. Include safety concerns.**
   - See No.1 above
6. **In your opinion, is there a need for modes of transportation in addition to the private automobile? Specify.**
   - Pedestrian improvements are needed in Downtown Springfield. The City has sidewalk along Ash Street and South Laurel Street. One major issue is connecting the two. Construction of sidewalks requires additional work for drainage, increasing costs

7. **Do you see any issues associated with parking, pedestrians and/or bicycle facilities in Effingham County? If yes, what issues do you see and where?**

   - The City has a need to move pedestrians in Downtown. That is why the Streetscape/pedestrian access project is critical. The city also needs to connect the Downtown to surrounding streets. A third need is to provide a pedestrian connection across SR 21 bypass to the park along Courthouse Road. This will require an elevated pedestrian crossing or a pedestrian signal at SR 21 at McCall Street
   - The City is working on a pedestrian plan (to be prepared by staff) and will forward it to us when completed

8. **Are there issues related to truck traffic, and if so, what and where? Are adequate routes available for trucks to effectively transport goods? Are additional alternate truck routes needed?**

   - Trucks are not able to use the low clearance railroad underpass north of Springfield. So, they must use SR 119 through downtown. The SR 119 project would realign this route, eliminating the truck traffic downtown

9. **In your opinion, does the current road system meet your transportation needs? If not, where should transportation improvements take place?**

   - See No. 1 above

10. **Are you aware of any Environmental Justice populations (low income, minority, disabled, elderly), groups or neighborhoods in your area that should be contacted by the project team?**

    - Within Springfield there is a need to provide pedestrian connections to underprivileged neighborhoods along Ash Street and other areas near Downtown

Stakeholder Interview Summary Report Form

Interviewee: **LaMeisha R. Hunter, City Planner – City of Rincon**

Date of Interview: **October 24, 2007**

Interviewers: **Kyle Mote, Theodore R. Williams**

Attendee:Donald Toms, City Manager – City of Rincon

Interview Summary

1. **What, in your opinion, will be the top three most critical issues facing Effingham County and its cities over the next 25 years?**
   - Congestion and travel time on SR 21
   - Expand Fort Howard Road to four lanes because of existing subdivisions (five new subdivisions expected) and the Georgia Pacific plant
   - Need a traffic signal at SR 21 and 9th Street
2. **How do you feel about the rate of growth taking place in the county (the city)? How do you feel about the type of growth? Growing too fast? Too slow? OK? Too much residential? Not enough industry?**
   - Population growth in City of Rincon ranges from steady "to too fast" at 8 – 10% per year
3. **Do you believe the existing transportation system adequately supports land uses in Effingham County? If not, what specific improvements would you make?**
   - The City of Rincon has adequate controls and does a good job of planning new roads for new neighborhoods
   - A major problem is the railroad bisecting the city, resulting in circuitous travel, thus resulting in the need for more railroad crossings
4. **Are you experiencing delays or difficulty in traveling to and from different parts of the county or in and out of the county? If so, Please indicate where and when do the most serious delays occur?**
   - Other traffic concerns include
     - SR 17 and SR 119 in Guyton
     - McCall Road and SR 21 – very dangerous (suggested limiting left hand turns)
     - The Overpass at 4th Street, limits the visibility existing the Elementary School
5. **Identify areas in the current transportation network that you feel are most in need of immediate attention. Include safety concerns.**
   - Extend Lexington Avenue to Lisa Street
   - Extend Carolina Street to the new Lowe's site
   - Expand Ft. Howard Road to four lanes

- Rincon Bypass to divert truck traffic only

6. **In your opinion, is there a need for modes of transportation in addition to the private automobile? Specify.**
   - Medical transportation for seniors and disabled people
   - Some type of transit service because some citizens are paying $20 to private drivers for work trips
7. **Do you see any issues associated with parking, pedestrians and/or bicycle facilities in Effingham County? If yes, what issues do you see and where?**
   - There is no parking problems because the City of Rincon does not have a traditional downtown
   - Sidewalks are needed on Ft. Howard Road because of numerous subdivisions and people walking in the road or ditch
   - A bike path is needed on the Ebenezer Scenic Bypass
8. **Are there issues related to truck traffic on the road system, and if so, what and where? Are adequate routes available for trucks to effectively transport goods? Are additional alternate truck routes needed?**
   - Truck traffic is a problem on SR 21, Ft. Howard Road and 9th Street
   - The Rincon Bypass is needed to divert truck traffic, but not car traffic
9. **In your opinion, is spending on transportation adequate? If not, where would you spend more money?**
   - See No. 5 above
10. **Are you aware of any Environmental Justice populations (low income, minority, disabled, elderly), groups or neighborhoods in your area that should be contacted by the project team?**
    - No

Stakeholder Interview Summary Report Form

Interviewees: **Walter Wright, Effingham County Fire Department**

Jimmy McDuffie, Effingham County Sheriff

Richard Bush, Effingham County Chief Deputy

Val Ashcraft, Effingham County Fire Chief

Date of Interview: October 24, 2007

Interviewer: Richard Fangmann

Attendee: Radney Simpson, GDOT

Interview Summary

1. **What, in your opinion, will be the top three most critical transportation issues facing Effingham County and its cities over the next 25 years?**
   - Highway 21 and US 80 are already overcapacity
   - Limited hurricane evacuation capability with only two state roads leading to the north
2. **How do you feel about the rate of growth taking place in the county (the city)? How do you feel about the type of growth? Growing too fast? Too slow? OK? Too much residential? Not enough industry?**
   - The County has plans to move people in, but no plans on how to move people within the County
3. **Do you believe the existing transportation system adequately supports land uses in Effingham County? If not, what specific improvements would you make?**
   - The Effingham Parkway is needed to relieve traffic along SR 21. It will need to be 4-lanes to keep pace with growth
   - The Rincon bypass is needed to reduce truck traffic through town
4. **Are you experiencing delays or difficulty in traveling to and from different parts of the county or in and out of the county? If so, Please indicate where and when do the most serious delays occur?**
   - SR 21 has backups from I-95 that can stretch 4 or 5 miles. Also, US 80 is congested. It is planned for improvements. These need to extend west to US 280
   - The emergency services have difficulties traveling east to west, particularly in the northern part of the County. They must take several County roads that are not as well maintained to wind through the area. The state routes provide good north to south connectivity

5. **Identify areas in the current transportation network that you feel are most in need of immediate attention. Include safety concerns.**
   - SR 21 and US 80 are currently congested and in need of relief. The SR 119 is a major safety concern. Accidents are frequent along the corridor, especially when school lets out. Two Sheriff's Deputies direct traffic from the high school exit
   - A free right turn movement is needed from SR 119 eastbound onto SR 21. In addition, this intersection has a drainage problem leading to standing water on the road
6. **In your opinion, is there a need for modes of transportation in addition to the private automobile? Specify.**
   - Springfield and Guyton have park and ride lots, Rincon needs one, as well. There should be an organized program to use these lots
   - Bicycle safety is an issue along SR 119. A bike lane is needed to provide access to the schools
7. **Do you see any issues associated with parking, pedestrians and/or bicycle facilities in Effingham County? If yes, what issues do you see and where?**
   - SR 119 pedestrian and bicycle travel to the schools is important
8. **Are there issues related to truck traffic, and if so, what and where? Are adequate routes available for trucks to effectively transport goods? Are additional alternate truck routes needed?**
   - SR 119 north of Springfield is a heavy logging truck route. This does not have a truck connection to SR 21, therefore, all the trucks must go through downtown Springfield
9. **In your opinion, does the current road system meet your transportation needs? If not, where should transportation improvements take place?**
   - The lack of east-west connectivity, especially north of SR 119 limits the response time for emergency services
   - Load restrictions on bridges are also a concern, as the fire trucks are now heavier than in the past. Many are rated at 30 to 40 tons. Fire trucks and garbage trucks are now around 30 tons
10. **Are you aware of any Environmental Justice populations (low income, minority, disabled, elderly), groups or neighborhoods in your area that should be contacted by the project team?**
    - These communities are present in Clyo, the west side of Guyton, the northwest side of Springfield, along Ash Street and in some areas of Rincon

Stakeholder Interview Summary Report Form

Interviewees: **Homer L. Wallace, President – NAACP of Effingham County**

Lucy Powell, Secretary – NAACP of Effingham County

Date of Interview: **October 24, 2007**

Interviewers: **Kyle Mote, Theodore R. Williams**

Interview Summary

1. **What, in your opinion, will be the top three most critical issues facing Effingham County and its cities over the next 25 years?**
   - Lack of non-medical transportation for seniors and disable people and single parents without cars
   - Lack of affordable transportation
   - Lack of awareness of existing paratransit services
2. **How do you feel about the rate of growth taking place in the county (the city)? How do you feel about the type of growth? Growing too fast? Too slow? OK? Too much residential? Not enough industry?**
   - Residential growth is too fast in the south part of the county, especially around Rincon. However, more residential growth is needed in the northern part of the county. There is a need to consider using the replacement of new schools to manage growth
   - Need more industrial growth
   - Older residential areas need more roadway improvements
3. **Do you believe the existing transportation system adequately supports land uses in Effingham County? If not, what specific improvements would you make?**
   - Need to pave dirt roads, especially in the northern part of the county. These dirt facilities interferes with medical transportation and floods badly when it rains
   - Need to improve roads in the older residential areas, which have too many potholes and uneven pavement surfaces
4. **Are you experiencing delays or difficulty in traveling to and from different parts of the county or in and out of the county? If so, Please indicate where and when do the most serious delays occur?**
   - Major traffic concerns are as follows:
     - US 80
     - SR 17
     - SR 21, south of Rincon

5. **Identify areas in the current transportation network that you feel are most in need of immediate attention. Include safety concerns.**
   - See No. 3 and No. 4 above
6. **In your opinion, is there a need for modes of transportation in addition to the private automobile? Specify.**
   - See No. 1 above
7. **Do you see any issues associated with parking, pedestrians and/or bicycle facilities in Effingham County? If yes, what issues do you see and where?**
   - The City of Guyton needs more sidewalks (contact Pearl Bones about trails, bikeways and sidewalk issues)
8. **Are there issues related to truck traffic on the road system, and if so, what and where? Are adequate routes available for trucks to effectively transport goods? Are additional alternate truck routes needed?**
   - Truck traffic in Rincon is too high. The new loads will increase this problem
   - Need the Old Augusta Road Bypass (Rincon Bypass)
9. **In your opinion, is spending on transportation adequate? If not, where would you spend more money?**
   - See No. 3 above
10. **Are you aware of any Environmental Justice populations (low income, minority, disabled, elderly), groups or neighborhoods in your area that should be contacted by the project team?**
    - Need to distribute flyers to local churches and city council officials. Mr. Wallace and Ms. Powell agreed to help with the flyer distribution to churches

Stakeholder Interview Summary Report Form

Interviewee: Randy Shearouse, Superintendent – Effingham County Board of Education

Date of Interview: October 24, 2007

Interviewers: Kyle Mote, Theodore R. Williams

Interview Summary

1. **What, in your opinion, will be the top three most critical issues facing Effingham County and its cities over the next 25 years?**
   - Traffic on SR 21
   - US 80 in Flakeville
   - SR 119 – a new middle school is being constructed with 1,200 students next to Effingham High School
   - Lack of staging area for parents picking up students
2. **How do you feel about the rate of growth taking place in the county (the city)? How do you feel about the type of growth? Growing too fast? Too slow? OK? Too much residential? Not enough industry?**
   - There is tremendous growth in the student population with 300 new students this year
   - The area around Guyton Elementary is a high growth area as well as the area around Marlow Elementary School
3. **Do you believe the existing transportation system adequately supports land uses in Effingham County? If not, what specific improvements would you make?**
   - Yes
4. **Are you experiencing delays or difficulty in traveling to and from different parts of the county or in and out of the county? If so, Please indicate where and when do the most serious delays occur?**
   - McCall Road at SR 21 – this is a safety problem and buses cannot travel thru this intersection
   - The school must dispatch more buses on the road because of the level of congestion in the Rincon area (more buses are needed because of travel time constraints)
5. **Identify areas in the current transportation network that you feel are most in need of immediate attention. Include safety concerns.**
   - SR 119 needs to be widened to four lanes from Springfield to Guyton
   - Sandhill Road at US 80 is a bad problem
   - See No. 1 above

6. **In your opinion, is there a need for modes of transportation in addition to the private automobile? Specify.**
   - There is a need for transit services for seniors and disable people
   - There is a need for medical transportation for special needs students
7. **Do you see any issues associated with parking, pedestrians and/or bicycle facilities in Effingham County? If yes, what issues do you see and where?**
   - Only at Rincon Elementary School is there a need for sidewalks
8. **Are there issues related to truck traffic on the road system, and if so, what and where? Are adequate routes available for trucks to effectively transport goods? Are additional alternate truck routes needed?**
   - Concerned about truck traffic on SR 275 affecting the school located along this road. This problem could be increased by the Rincon Bypass dumping additional truck traffic onto SR 275
9. **In your opinion, is spending on transportation adequate? If not, where would you spend more money?**
   - See responses to the above questions
10. **Are you aware of any Environmental Justice populations (low income, minority, disabled, elderly), groups or neighborhoods in your area that should be contacted by the project team?**
    - Leadership Effingham has a special transportation group that is examining transportation issues in Effingham County that would be interested in participating in this transportation study. Mr. Shearouse volunteered to a liaison to the Leadership Effingham Transportation Study Group

Stakeholder Interview Summary Report Form

Interviewee: **Ed Brown, Chief Financial Officer, Effingham Hospital**

Date of Interview: October 24, 2007

Interviewer: Richard Fangmann

Attendee: Radney Simpson, GDOT

Interview Summary

1. **What, in your opinion, will be the top three most critical transportation issues facing Effingham County and its cities over the next 25 years?**
   - Growth along the south side of the County and along the SR 119 corridor
   - Access to healthcare for people north of SR 119 who do not have a car
   - Access to Hospital in Savannah for critical care patients
2. **How do you feel about the rate of growth taking place in the county (the city)? How do you feel about the type of growth? Growing too fast? Too slow? OK? Too much residential? Not enough industry?**
   - The County growth is good and provides additional opportunities for people. It needs to be planned to include employment
3. **Do you believe the existing transportation system adequately supports land uses in Effingham County? If not, what specific improvements would you make?**
   - No, existing congestion is present along SR 21 and the Old River Road access to I-16. However, accommodating the projected new growth is the main issue
4. **Are you experiencing delays or difficulty in traveling to and from different parts of the county or in and out of the county? If so, Please indicate where and when do the most serious delays occur?**
   - Rincon along SR 21 is a congested area, as is SR 21 throughout Chatham County. The SR 17 approach to US 80 is very congested and will finally be getting a traffic signal. The Guyton 4-way stop has regular backups, as well
5. **Identify areas in the current transportation network that you feel are most in need of immediate attention. Include safety concerns.**
   - SR 17 at US 80 is a safety concern, as it needs a traffic signal due to significant congestion
6. **In your opinion, is there a need for modes of transportation in addition to the private automobile? Specify.**
   - Public transportation of some type is needed. It may be possible to expand the Chatham bus system. Carpool and vanpool programs may be possible, as well. A system is needed to help transit dependent people get to/from the hospital

7. **Do you see any issues associated with parking, pedestrians and/or bicycle facilities in Effingham County? If yes, what issues do you see and where?**
   - Children ride along the roads on bikes. This was safer in the past when there was less traffic. SR 119 is a problem area
8. **Are there issues related to truck traffic, and if so, what and where? Are adequate routes available for trucks to effectively transport goods? Are additional alternate truck routes needed?**
   - There are many trucks on the road. We need to make sure we service them adequately as the Ports grow. A major issue for the hospital is related to the ambulance service for trauma care and heart patients. These are sent to the hospital in Savannah. Providing a congestion free route for them is important. In Savannah, the EMS vehicles have a preemption device to turn the signals green. We may be able to use that for trips from Effingham County to Savannah hospital, as well
9. **In your opinion, does the current road system meet your transportation needs? If not, where should transportation improvements take place?**
   - The improvements already identified should make a difference to accommodate future growth (Rincon Bypass and Effingham Parkway)
10. **Are you aware of any Environmental Justice populations (low income, minority, disabled, elderly), groups or neighborhoods in your area that should be contacted by the project team?**
    - There is a need to provide public transportation service to the north end of the County
    - EJ communities include: Clyo, Egypt and Marlow

Stakeholder Interview Summary Report Form

Interviewee: **Brent G. Howell, Manager, Governmental Affairs – Georgia Pacific**

Date of Interview: October 24, 2007

Interviewers: **Kyle Mote, Theodore R. Williams**

Attendees: **Carrie A. Thompson, Public Affairs Manager, Savannah River Mill – Georgia Pacific**

Jay R. Ryczkowski, Engineering Manager, Savannah River Mill – Georgia Pacific

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Interview Summary

1. **What, in your opinion, will be the top three most critical issues facing Effingham County and its cities over the next 25 years?**
   - SR 21 – moving people from Effingham County to Chatham County
   - The Rincon Bypass – this will take 300 trucks out of the City of Rincon
   - Access in and out of the Georgia Pacific plant on Ft. Howard Road
2. **How do you feel about the rate of growth taking place in the county (the city)? How do you feel about the type of growth? Growing too fast? Too slow? OK? Too much residential? Not enough industry?**
   - Residential growth is too fast, but growth is coming and it must be planned and controlled
   - Georgia Pacific employs 1,500 people of which 40% lives in Effingham County
3. **Do you believe the existing transportation system adequately supports land uses in Effingham County? If not, what specific improvements would you make?**
   - SR 21 is a parking lot during peak periods – the problem is caused at SR 21 and I-95 with the spillover effect causing the congestion backlog
   - The new neighborhood of "Rice Hope" is a major concern. It could potentially add 4,000-6,000 people on SR 21
4. **Are you experiencing delays or difficulty in traveling to and from different parts of the county or in and out of the county? If so, Please indicate where and when do the most serious delays occur?**
   - See No. 3 above
5. **Identify areas in the current transportation network that you feel are most in need of immediate attention. Include safety concerns.**
   - Rincon Bypass – this project has been on the drawing board for the last five years. What is the current status and development phases

6. **In your opinion, is there a need for modes of transportation in addition to the private automobile? Specify.**
   - No
7. **Do you see any issues associated with parking, pedestrians and/or bicycle facilities in Effingham County? If yes, what issues do you see and where?**
   - No
8. **Are there issues related to truck traffic on the road system, and if so, what and where? Are adequate routes available for trucks to effectively transport goods? Are additional alternate truck routes needed?**
   - Rincon Bypass
   - Additional access off of Ft. Howard Road to the Georgia Pacific plant (what are the county's plans)
9. **In your opinion, is spending on transportation adequate? If not, where would you spend more money?**
   - See No. 3 above
10. **Are you aware of any Environmental Justice populations (low income, minority, disabled, elderly), groups or neighborhoods in your area that should be contacted by the project team?**
    - Contact Bonnie Dixon of the United Way regarding EJ issues

APPENDIX B. Overview of Socioeconomic Data Forecasting

This section provides an overview of the creation of socioeconomic data for use in the travel demand model and the workings of the travel demand model itself. Population and employment projections and geographic distribution thereof are tied to character areas and other growth factors set forth by the county's Future Zoning and Development map.

Effingham Population and Employment Projection Methodology

Introduction

The purpose of this study is to identify and prioritize multi-modal transportation needs throughout the county over the next 20-25 years. In order to determine what infrastructure improvements may be necessary in this timeframe, the overall population and employment of Effingham County must be forecast to the planning horizon year, 2030. The locations of residents and jobs can then be allocated to smaller geographic areas throughout the county to determine potential travel stresses on individual transportation facilities. A computerized Travel Demand Model (TDM) is used to quantify these stresses.

Historic and Current Population

Effingham County is part of the 10-County Coastal Region of Georgia, as well as the three-county Savannah Metropolitan Statistical Areas (MSA). The 10-County Coastal Region consists of Bryan, Bulloch, Camden, Chatham, Effingham, Glynn, Liberty, Long, McIntosh, and Screven. Major regional cities include Savannah in Chatham County, Statesboro in Bulloch, Hinesville in Bryan, Brunswick in Glynn, and St. Mary's in Camden.

In recent years, the Coastal Region has experienced a high rate of population growth with a 17.5% increase between 1990 and 2000 alone. Because of this rapid growth and the perceived inability of traditional population projection methods to adjust to the unique context and trends of the Coastal Region, the Coastal Georgia Regional Development Center (RDC) collaborated with the Georgia Tech Center for Quality Growth and Regional Development (CQGRD) to produce population projections for the 10-County area. The populations of each county and its incorporated areas were forecasted to 2030.

10-County Georgia Coastal Region
Source: www.coastalgeorgiardc.org

Effingham County's population has grown from less than 14,000 people in 1970 to almost 47,000 people in 2005. The county has benefited from its proximity to the region's largest city (Savannah), military bases (Fort Stewart and Hunter Army Airfield), and universities (Georgia Southern, Georgia Tech – Savannah, and Savannah Technical College among others). The highly-regarded public school system, rural character, and relatively low taxes also serve to attract residents. **Figure B.1** depicts historic population growth for Effingham County.

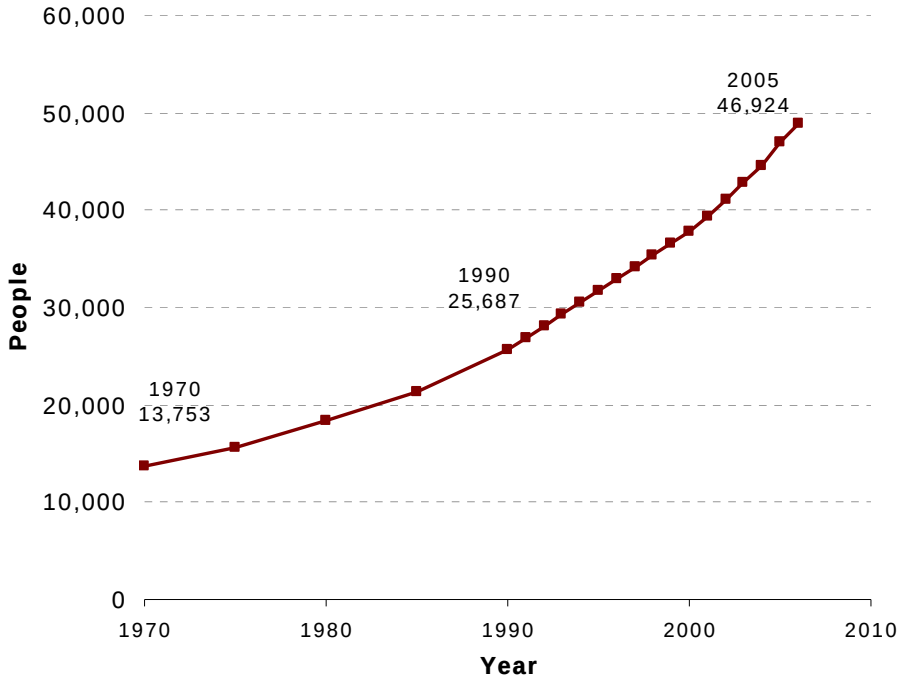


Figure B.1 Population of Effingham County, 1970 – 2005

(Source: CQGRD, Georgia Coast 2030)

Historic and Current Employment

Though population growth has exploded in recent years, the number of jobs in the county has not kept pace with the increased number of residents. Effingham is disproportionately residential and acts as a bedroom community to Savannah and, to a lesser degree, Fort Stewart, Statesboro, and Hilton Head, South Carolina. **Figure B.2** depicts county employment from 1990 to 2005. The current population to employment ratio, an indicator of how well local employment serves county residents, is 5.59 i.e., 47,000 ÷ 8,412. Thus, there are more than five residents for every job, and many workers must commute to other places to obtain employment. Because not all residents work, for financial, legal, or other reasons, a more balanced ratio of residents to jobs would be somewhere between 1.6 and 2.5, corresponding to approximately one job per household.

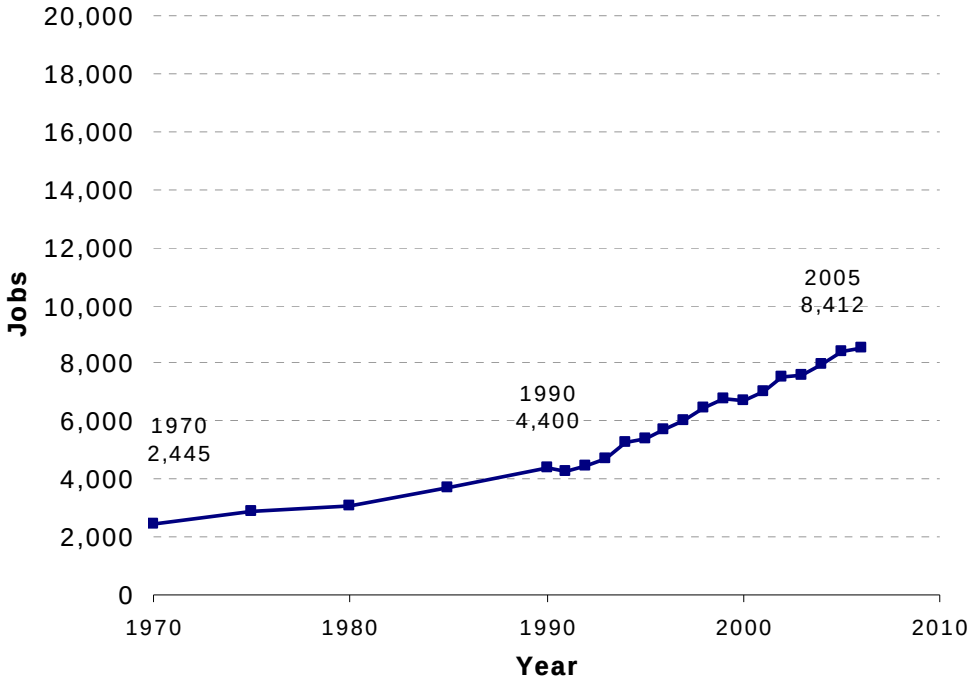


Figure B.2 Employment of Effingham County, 1970 – 2005

Though Effingham has historically been a bedroom community, and will continue to be in the foreseeable future, the county population is reaching a critical level necessary to support a diverse local economy. The population growth resulting from the transition from rural to higher-density suburban land uses, particularly in the southern part of the county, will enable Effingham to develop retail and service jobs at a much greater rate than in the past. New jobs in these industry sectors, especially, will begin to close some of the gap between the number of workers and the number of jobs in the county. At the same time, manufacturing will continue to be a primary employment sector for many county residents. The current employment mix of Effingham County can be seen in **Figure B.3.** Government, which includes the workers in the education and health systems, makes up the largest slice of county employment, though the service and manufacturing sectors are prominent as well.

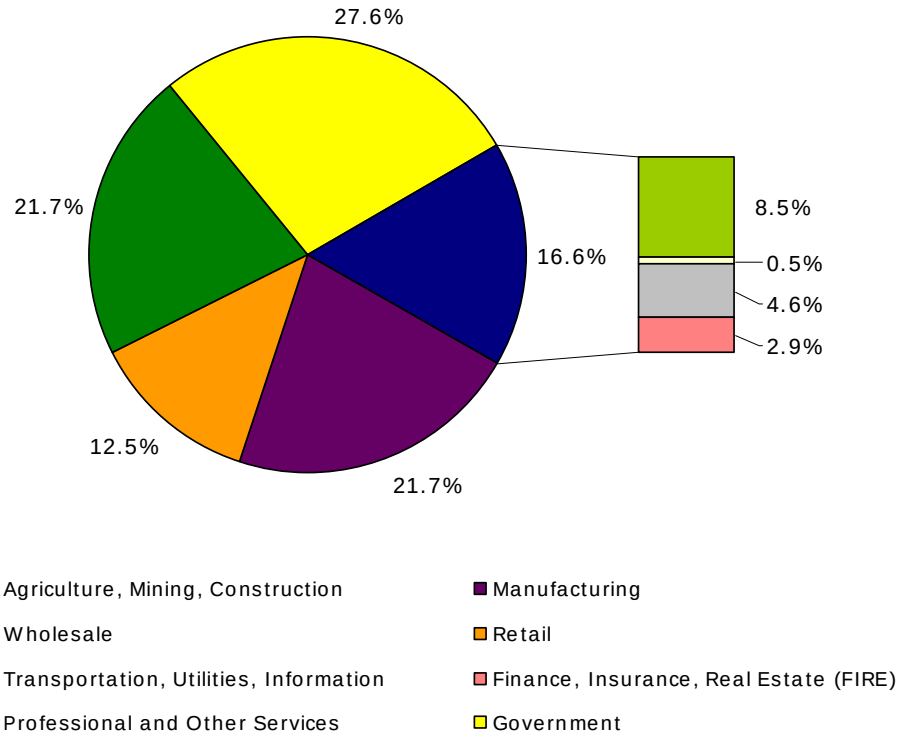


Figure B.3 Employment Mix 2006 (GDOL)

Establishing County Population and Employment Control Totals for 2030

2030 POPULATION

To determine the future population of Coastal counties, the CQGRD used a cohort-component projection method calibrated by interviews with local representatives and sources such as building permits, occupancy certificates, military base personnel changes, and school enrollment databases. Cohort-component projections measure births, deaths, and in/out migrations in a place over time, tracking population by age and gender "cohorts", or groups.

In Effingham County, the population through 2030 was determined via cohort-component projection with forecasts calibrated by recent building permit activity and population estimates from the Georgia Governor's Office of Planning and Budget.[1] This method resulted in a forecast of 79,935 residents in 2030, which is used as the county population control total for further employment and small-area forecasts. The value of 79,935 residents has been accepted by the RDC as a realistic 2030 population to be used in long-range comprehensive planning efforts for Effingham County.

[1] Effingham County was the only county in the region to have its population forecast calibrated using the GA GOPB model values. This is because it was the only county whose cohort-component forecast values were lower than those predicted by the OPB.

2030 EMPLOYMENT

No detailed Effingham County employment forecast to 2030 existed to use as a control total, so it was necessary to develop one to give an overview of county employment and for geographically disaggregated use in a travel demand model.[2] To determine a realistic range of the number of future jobs in Effingham County, a variety of projection methods were applied using applicable historic employment and/or population data. **Table B1** depicts the results of those methods, and a brief description of each follows.

Table B.1 Results of Various Employment Projection Methods

#	Projection Method	2010 Proj. Employment	2020 Proj. Employment	2030 Proj. Employment
1	Simple Linear	9,749	12,424	**15,099**
2	Simple Geometric	10,440	16,082	**24,773**
3	Simple Exponential	10,440	16,082	**24,773**
4	Linear	9,671	12,475	**15,279**
5	Geometric	10,775	17,152	**27,303**
6	Parabolic	9,920	13,371	**17,192**
7	Cubic	9,187	8,143	**768**
8	Modified Exponential	9,008	10,311	**11,208**
9	Logistic	9,452	11,122	**11,971**
10	Constant Share	8,758	9,904	**12,536**
11	Growth Share - GA	9,726	11,731	**16,340**
12	Growth Share - Coastal Region (10-Cnty)	-	-	**20,954**
13	Growth Share - Savannah MSA (3-Cnty)	-	-	**18,987**
14	Shift Share - Aggregated - GA	10,020	13,184	**19,035**
15	Economic Base Theory / Location Quotients	-	10,371	**12,373**
16	Shift Share - Disaggregated - GA - '02 to '06 growth	-	-	**20,990**
17	Shift Share - Disaggregated – Region (WIA) - '02 to '06 growth	-	-	**18,103**
18	Shift Share - Disaggregated - GA - '02 to '06 capped growth	-	-	**16,159**
19	Shift Share - Disaggregated – Region (WIA) - '02 to '06 capped growth	-	-	**14,637**

The first nine methods shown in Table X2 are trendline extrapolations based entirely on historic aggregate employment levels from 1990-2005 for Effingham County. These methods are simple to apply and

[2] The CQGRD report contained a brief reference to "Economic Conditions" within the county, and provided industry projections to 2030 based on national Woods and Poole Economics data. No methodology was detailed, and the expected 2030 county employment was approximately 15,000 jobs. Because the CQGRD report primarily concentrated on population and there was no obvious justification for the 2030 employment forecast value, it was not considered a reliable source to use as the county employment control total.

are most useful in areas with relatively stable growth rates and diverse industry mixes. In many cases, however, simplicity comes at the expense of reality.

Methods 10-14 predict the aggregate future employment of the county, taking into account the overall job market trends of a larger reference area, such as the State of Georgia, Coastal Region, or Savannah MSA. Constant share projections assume that the small area (e.g., Effingham County) will retain employment in constant proportion to the larger reference area over time. Growth share projections apply the growth rate of the larger area to the smaller area, which is useful if the behavior of the smaller area is expected to mimic the area it references. The shift share method projects forward historic growth trends in the smaller area tempered by the predicted behavior of the larger reference area. A "shift-term" is used to capture the difference between these growth rates, and provides some measure of local advantage or disadvantage.

Method 15 utilizes Economic Base Theory to provide future employment projections, disaggregated by industry sector. Economic base theory states that some industries are "basic" and export their goods or services to other geographic areas due to surplus capacity, whereas other industries are "local" and consist of jobs that provide support for basic industries. Typically, there are 3-4 "local" workers for each "basic" worker. For each industry sector, a "location quotient" may be calculated to determine the relative advantage or disadvantage that an area has in attracting employment versus a larger reference area. The location quotient is a ratio of industry share in a small area divided by industry share in the larger area. A location quotient greater than 1 indicates that an industry has a local advantage and produces more goods or services than necessary for the area, and thus exports some of their products to other places.

Methods 16-19 are disaggregated (by industry sector) employment projections utilizing the shift-share method previously described. Different reference areas and historical employment base data can be used, depending on how accurately certain geographical areas or past trends are perceived to be a model for the future. Additionally, annual growth rate caps can be applied to particular industries to mitigate the effects of employment gains in industry sectors or areas with relatively few jobs at the beginning of the projection period. Very high growth rates resulting from this scenario are typically not sustainable in the long term, and should be capped to preserve some semblance of reality.

Ultimately Method 18, a growth-capped industry-disaggregated shift-share analysis utilizing the trends of Effingham County and the State of Georgia, was chosen to generate the employment control total for the county. Because Effingham does not border the Atlantic Ocean, unlike most of the other counties in the Coastal Region, it is thought that the county more closely follows state trends than regional trends. Additionally, growth in other coastal region counties is so strong that Effingham appears to have little comparative advantage over these counties and displays lower than expected employment growth. Expected employment due to organic continued growth according to observed trends is 16,159 jobs in 2030. The process by which this number was arrived at is seen in the following **Table B.2**, which is split over two pages for clarity.

Table B.2 Shift-Share Employment Projection Method

TDM Category	Industry	D Effingham Emp. 2002	E Effingham Emp. 2006	F Effingham Growth Rate 2002-2006	G Effingham Growth Rate 100% Cap	H GA Emp. 2002	I GA Emp. 2006	J GA Growth Rate 2002-2006	K GA Growth Rate 100% Cap	L Four Year Shift Term	M Ten Year Shift Term	N 250% Capped Ten Year Shift Term
	SOURCE	GDOL	GDOL	(E-D)/D*100	F at 25%	GDOL	GDOL	(I-H)/H*100	J at 25%	G-K	(1+L)^(10/4)-1	M at 250%
O/S	Agriculture, forestry, & fishing	**122**	**88**	-27.90%	-27.90%	**26,867**	**26,044**	-3.10%	-3.10%	-24.80%	-51.00%	-51.00%
O/S	Mining	**17**	**8**	-52.90%	-52.90%	**7,238**	**6987**	-3.50%	-3.50%	-49.50%	-81.90%	-81.90%
O/S	Construction	**550**	**660**	20.00%	20.00%	**195,951**	**218,487**	11.50%	11.50%	8.50%	22.60%	22.60%
M	Manufacturing	**1,881**	**1,916**	1.90%	1.90%	**466,855**	**447,877**	-4.10%	-4.10%	5.90%	15.50%	15.50%
W	Wholesale trade	**59**	**47**	-20.30%	-20.30%	**204,584**	**215,703**	5.40%	5.40%	-25.80%	-52.50%	-52.50%
R	Retail trade	**929**	**1,106**	19.10%	19.10%	**451,192**	**469,722**	4.10%	4.10%	14.90%	41.70%	41.70%
O/S	Transportation and warehousing	**75**	**254**	238.70%	100.00%	**148,194**	**156,711**	5.70%	5.70%	94.30%	425.90%	250.00%
O/S	Utilities	**87**	**119**	36.80%	36.80%	**20,547**	**20,096**	-2.20%	-2.20%	39.00%	127.70%	127.70%
O/S	Information	**41**	**32**	-22.00%	-22.00%	**132,317**	**115,956**	-12.40%	-12.40%	-9.60%	-22.30%	-22.30%
O/S	Finance and insurance	**117**	**166**	41.90%	41.90%	**151,267**	**162,577**	7.50%	7.50%	34.40%	109.40%	109.40%
O/S	Real estate and rental and leasing	**72**	**92**	27.80%	27.80%	**57,035**	**64,458**	13.00%	13.00%	14.80%	41.10%	41.10%
O/S	Professional, scientific/tech svcs	**225**	**320**	42.20%	42.20%	**191,438**	**210,980**	10.20%	10.20%	32.00%	100.20%	100.20%
O/S	Management: companies/enterprises	**5***	**10***	100.00%	100.00%	**73,930**	**52,420**	-29.10%	-29.10%	129.10%	694.40%	250.00%
O/S	Administrative and waste svcs	**394**	**447**	13.50%	13.50%	**249,934**	**286,696**	14.70%	14.70%	-1.30%	-3.10%	-3.10%
O/S	Educational services	**3***	**7***	133.30%	100.00%	**40,567**	**53,128**	31.00%	31.00%	69.00%	271.50%	250.00%
O/S	Health care and social services	**212**	**296**	39.60%	39.60%	**312,973**	**360,917**	15.30%	15.30%	24.30%	72.30%	72.30%
O/S	Arts, entertainment and recreation	**42**	**40**	-4.80%	-4.80%	**35,258**	**39,928**	13.20%	13.20%	-18.00%	-39.10%	-39.10%
O/S	Accommodation and food services	**415**	**579**	39.50%	39.50%	**300,920**	**343,858**	14.30%	14.30%	25.20%	75.60%	75.60%
O/S	Other services (except government)	**163**	**205**	25.80%	25.80%	**100,175**	**98,913**	-1.30%	-1.30%	27.00%	81.90%	81.90%
O/S	Unclassified - industry not assigned	**18**	**12**	-33.30%	-33.30%	**16,668**	**14,672**	-12.00%	-12.00%	-21.40%	-45.20%	-45.20%
O/S	Federal government	**65**	**68**	4.60%	4.60%	**95,717**	**94,709**	-1.10%	-1.10%	5.70%	14.80%	14.80%
O/S	State government	**75**	**51**	-32.00%	-32.00%	**146,482**	**152,301**	4.00%	4.00%	-36.00%	-67.20%	-67.20%
O/S	Local government	**1,968**	**2,324**	18.10%	18.10%	**376,871**	**410,433**	8.90%	8.90%	9.20%	24.60%	24.60%
	All industries	**7,535**	**8,847**	**17.40%**	**17.40%**	**3,802,980**	**4,023,573**	**5.80%**	**5.80%**	**11.60%**	**31.60%**	**31.60%**

TDM Category	Industry	O GA Emp. 2004	P GA Emp. 2014	Q 10 –Year GA Growth Rate 2004-2014	R 9 – Year GA Growth Rate	S Effingham Employment 2015	T 24 -year GA Growth Rate	U Effingham Employment 2030	V Change in Employment 2006 - 2030	W Industry Share Effingham 2030
	SOURCE	GDOL	GDOL-Projected	(P-O)/O	(1+Q)^(9/10)-1	(1+N+R)*E	(1+Q)^(24/10)-1	(1+N+T)*E	U-E	%
O/S	Agriculture, forestry, & fishing	**44,230**	**45,260**	2.30%	2.10%	45	5.70%	48	-40	**0.30%**
O/S	Mining	**7,056**	**7,845**	11.20%	10.00%	2	29.00%	4	-4	**0.00%**
O/S	Construction	**200,010**	**241,930**	21.00%	18.70%	933	57.90%	1191	531	**7.40%**
M	Manufacturing	**448,000**	**452,840**	1.10%	1.00%	2231	2.60%	2263	347	**14.00%**
W	Wholesale trade	**206,640**	**238,910**	15.60%	14.00%	29	41.70%	42	-5	**0.30%**
R	Retail trade	**446,510**	**518,360**	16.10%	14.40%	1726	43.10%	2043	937	**12.60%**
O/S	Transportation and warehousing	**178,810**	**205,580**	15.00%	13.40%	923	39.80%	990	736	**6.10%**
O/S	Utilities	**20,160**	**20,550**	1.90%	1.70%	273	4.70%	277	158	**1.70%**
O/S	Information	**119,450**	**137,870**	15.40%	13.80%	29	41.10%	38	6	**0.20%**
O/S	Finance and insurance	**161,459**	**170,454**	5.60%	5.00%	356	13.90%	371	205	**2.30%**
O/S	Real estate and rental and leasing	**59,460**	**69,260**	16.50%	14.70%	143	44.20%	170	78	**1.10%**
O/S	Professional, scientific/tech svcs	**192,940**	**246,360**	27.70%	24.60%	720	79.80%	896	576	**5.50%**
O/S	Management: companies/enterprises	**53,300**	**62,060**	16.40%	14.70%	36	44.10%	39	29	**0.20%**
O/S	Administrative and waste svcs	**264,430**	**368,230**	39.30%	34.70%	588	121.40%	976	529	**6.00%**
O/S	Educational services	**345,470**	**432,130**	25.10%	22.30%	26	71.10%	29	22	**0.20%**
O/S	Health care and social services	**368,710**	**487,190**	32.10%	28.50%	594	95.20%	792	496	**4.90%**
O/S	Arts, entertainment and recreation	**36,810**	**46,620**	26.70%	23.70%	34	76.30%	55	15	**0.30%**
O/S	Accommodation and food services	**322,580**	**407,210**	26.20%	23.30%	1152	74.90%	1450	871	**9.00%**
O/S	Other services (except government)	**165,570**	**199,750**	20.60%	18.40%	411	56.90%	489	284	**3.00%**
O/S	Unclassified - industry not assigned	**25**	**11**	-56.00%	-52.20%	0	-86.10%	-4	-16	**0.00%**
O/S	Federal government	**72,170**	**60,700**	-15.90%	-14.40%	68	-34.00%	55	-13	**0.30%**
O/S	State government	**80,720**	**86,730**	7.40%	6.70%	20	18.80%	26	-25	**0.20%**
O/S	Local government	**133,270**	**155,150**	16.40%	14.70%	3236	44.00%	3918	1594	**24.20%**
	All industries	**3,927,780**	**4,661,000**	**18.70%**	**16.70%**	**13575**	**50.80%**	**16159**	**7312**	**100.00%**

Columns "D" and "E" in the previous table provide industry mix data for the boundary years of the time period thought to best predict future employment trends. Because business practices and technologies have changed significantly in recent years and cause differing growth patterns among industries, a relatively recent time frame was chosen. Between 2002 and 2006, the fastest growing industries in Effingham were transportation and warehousing, educational (support) services, management, and professional services. Georgia's fastest growing industries during the same time period were education, healthcare, accommodations, and entertainment (column J). The growth rate of each industry was then capped at 25% maximum annual growth (columns G and K) , as higher levels are not likely to be sustainable in the long run. In order to generate a shift term, the relative advantage in different industries that Effingham has over the State of Georgia, Georgia's capped growth was subtracted from Effingham's. This has the effect of both acknowledging and tempering the influence of greater economic trends.

The State of Georgia has official employment projections for the year 2014, based on 2004 data shown in column "O" of the previous Table B.2. Thus, the four-year industry growth rates that Effingham experienced had to be extrapolated to a 10-year time period, and then further modified in order to match up to base data time periods and the forecast years (i.e. Georgia growth rates from 2004-2014 had to be modified/applied to a 2006 Effingham base year to generate forecasts for both 2015 and 2030.) Column U shows the forecasted employment of the county based on continued organic industry growth. **Figure B.4** shows a pie chart of Effingham's industry mix resulting from the shift-share analysis. Recent local and state trends predict that services and infrastructure-related jobs will increase at a greater rate in the future, with retail holding steady as "organic" manufacturing jobs decline relative to their previous impact on county employment.

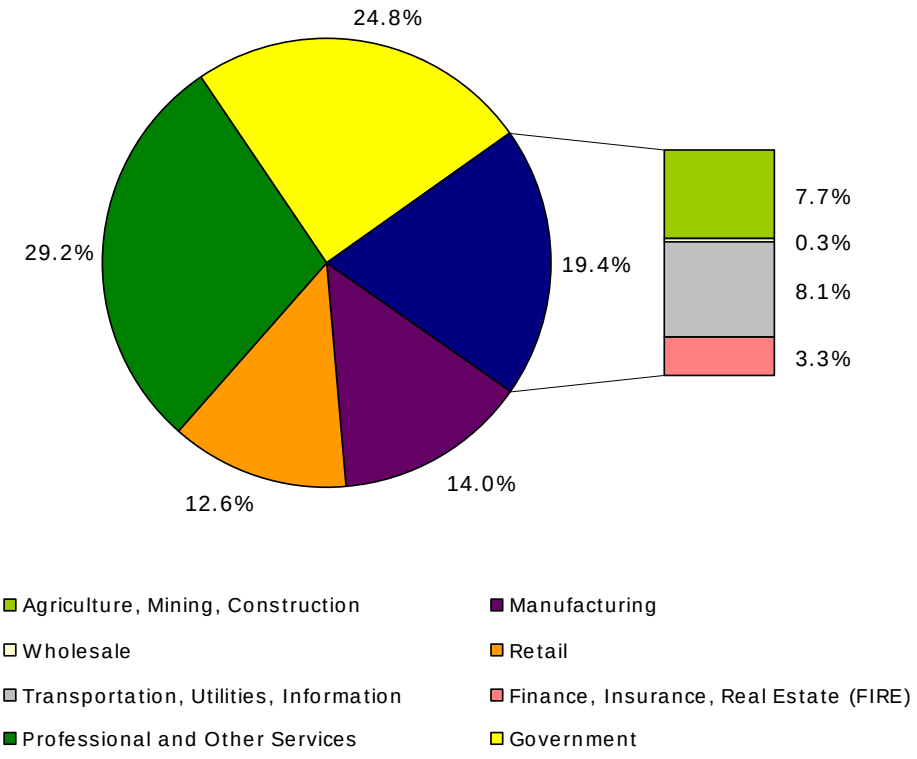


Figure B.4. Employment Mix 2030 (Shift-share)

Adjustments to Shift Share Analysis

The Effingham Economic Development Authority has set aside several large tracts of land for new manufacturing, logistics, and research-related businesses. As of 2006, these tracts had no existing employment, but they are all predicted to have various levels of build-out and accompanying jobs by 2030. The first industrial tract is located at the intersection of SR-21 and Ebenezer Road. A Portuguese manufacturing firm bought the site and expects to build a plant and generate 600 new jobs by 2010. A second tract, "Logisticenter", on 1,600 acres near SR-80 and I-16, has begun attracting new firms and expects that it will be mostly built out by 2030. According to the site plan, approximately 5 million square feet of space is distributed in 13 buildings, some of which are predicted to be used for warehousing, while other buildings will house offices. The third site, "Research Forest" is located on 2,200 acres east of Rincon. While marketing of this property has begun, its development is at least partially dependent on adding new transportation capacity and access to the site. Assuming that appropriate infrastructure improvements are undertaken, partial build-out and associated employment could be expected by 2030. Employment is predicted to be distributed among a number of sectors, including commercial, office, manufacturing, warehousing, research and services. There is also room for a school in Research Forest.

Because the shift-share analysis relied on relatively steady growth, based on historic numbers, it cannot forecast non-organic growth. Thus, additional analysis had to be undertaken to account for employment growth in completely new geographic areas. Using available site plans, estimates for building areas and

uses, square footage per employee (based on building use), and potential build-out timelines, the number of jobs generated at each industrial site was calculated. The Portuguese site was anticipated to generate 600 jobs by 2030, whereas LogistiCenter was expected to have just over 4,000 jobs by the same point (at 90% build-out), and Research Forest was predicted to have approximately 3,000 jobs by 2030 (50% build-out). **Table B.3** depicts predicted employment at various build-out levels for each site.

Table B.3. Additional Industrial Park Employment

2030 Build-Out	# of Employees		
	LogistiCenter	Research Forest	SR 21 @ Ebenezer Rd
100%	4,570	5,957	600
90%	4,113	5,361	-
80%	3,656	4,765	-
75%	3,428	4,468	-
70%	3,199	4,170	-
60%	2,742	3,574	-
50%	2,285	2,978	-
40%	1,828	2,383	-
25%	1,143	1,489	-
10%	457	596	-

2030 Employment Control Total

Overall, 7,692 new jobs, on top of the shift-share forecast of 16,159 are expected in the county by the horizon of this plan. The 2030 control total for county employment is thus 23,851 jobs, giving a more balanced population to employment ratio of 3.35:1.

Using Population and Employment Forecasts in a Travel Demand Model

To utilize population and employment in a travel demand model, the county control totals must be disaggregated to smaller traffic analysis zones (TAZ), which attract and generate trips based on underlying socioeconomic data. For this study, Effingham was divided into 52 TAZs which were drawn along various census area boundaries and major infrastructure (rail and roadways). Each TAZ is given a number and assigned a certain number of residents and jobs.

While it is possible that small geographic areas will continue to steadily accumulate population and employment at their historic rates, it is unlikely that future growth is distributed so evenly. Proximity to transportation corridors, employment, cultural and shopping opportunities, sewer lines, schools, and future land use policy are among the many factors that play a role in attracting people to different areas of the county. Thus, these factors were used to weight future growth towards particular areas. **Table B.4** lists population growth factors and the number of weighting points a TAZ could receive, while **Table B.5** shows employment growth factors. Since different industries and land uses generate differing travel

demand, overall employment was divided into four sectors: manufacturing, wholesale, retail, and other/services for use in the travel demand model. "Other/services" encompasses all types of service, as well as government and jobs in industries such as construction. The previous table describing the shift-share projection method steps lists the employment category of each sector in the leftmost column.

To provide input for travel demand model, population and employment were estimated, weighted, normalized (by maximum points), and assigned to the appropriate TAZ geography. Some TAZs were further fine-tuned in 2015 and 2030 to account for the geography-specific industrial employment adjustments previously described. **Figures B.5 through B.9** display the TAZ level population and employment distribution in 2006 and 2030.

Table B.4 Population Growth Factors

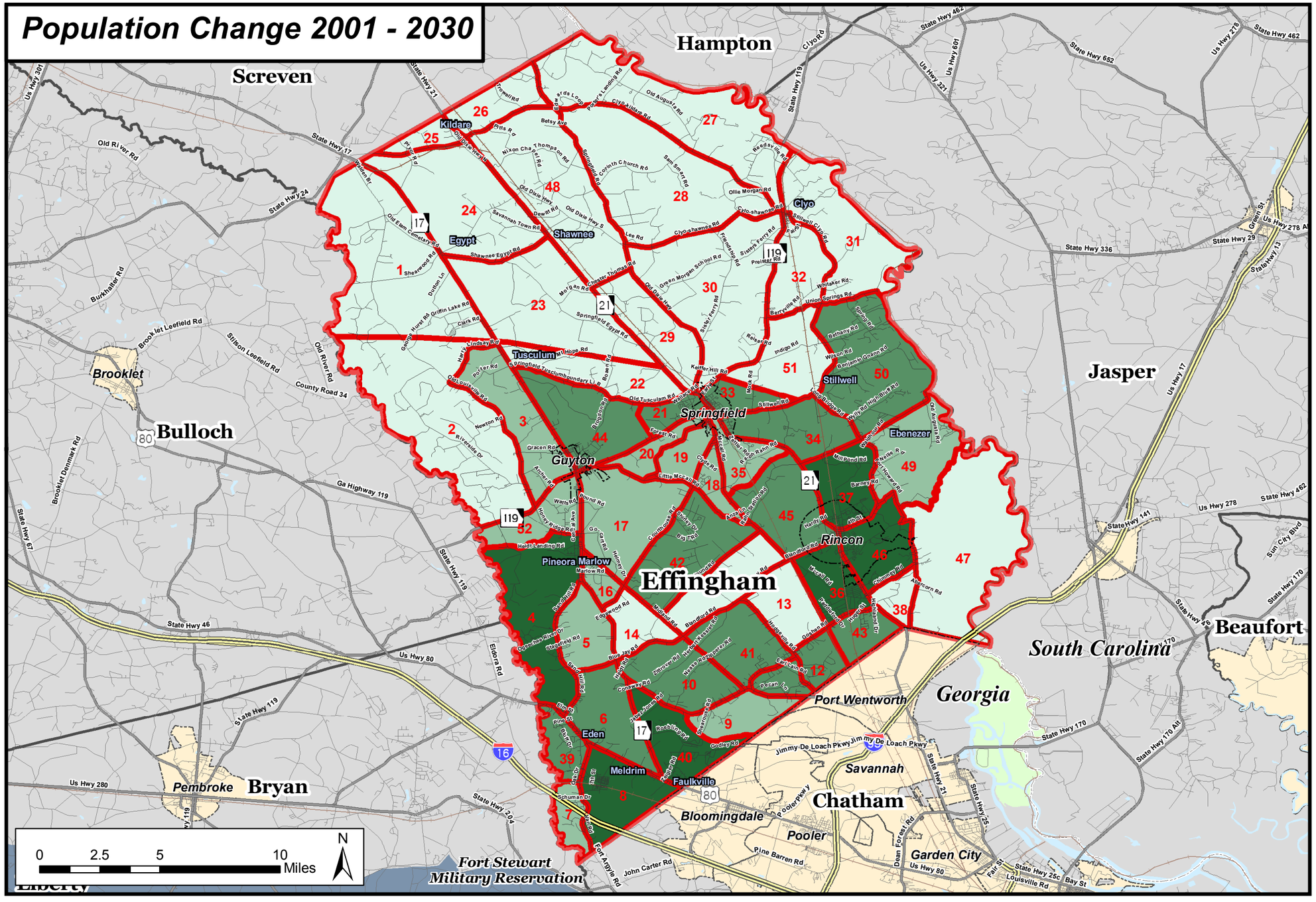
Growth Factor	Point Allocation	Maximum Points
City	2 = contains most of city, 1 = contains piece of city. 0 = no city	2.0
Community	1.5 = contains most of community, .75 = contains piece, 0 = no community	1.5
Development Node	# of dev nodes touching borders / 2, max = 1.5	1.5
Zoning	2 = suburban (water/sewer), 1 = mid, 0 = rural residential	2.0
Prox. to Corridors	1 x major primary corridors, .5 x secondary corridors	3.0
Prox. to Savannah, ports, mil. Base, water/sewer	3 = south of Blandford Rd, borders Chatham 2 = S of Blandford Rd 1 = S of 119	3.0
Industrial Park	1 = < 3 miles away	1.0
Maximum Points for seven population growth factors:		**14.0**

Table B.5 Employment Growth Factors

Growth Factor and Industry Sector	Point Allocation	Maximum Points
Industrial Park (Manufacturing)	0 to 2, % in TAZ * 2	2.0
RR lines (Manufacturing)	# of lines / 2	1.0
Prox. to Savannah, ports, mil. Base (Manufacturing)	1.5= south of Blandford Rd, borders Chatham 1 = S of Blandford Rd, .5 = S of 119	3.0
Prox. to Corridors (All sectors)	1 x major primary corridors, .5 x secondary corridors	3.0
City (Services, Retail)	2 = contains most of city, 1 = contains piece of city, 0 = no city	2.0
Community (Services, Retail)	1.5 = contains most of community, .75 = contains piece, 0 = no community	1.5
Development Node (Retail, Services x 50%)	# of dev nodes touching borders / 2, max = 1.5	1.5
Comp Plan Adjustment (Services)	add points for specific references w/ explanation	0.8
Population Concentration (Retail, Services)	Pop/3500	2.0
Maximum points for manufacturing: 7.5, services: 10, retail: 10, wholesale: N/A		

Effingham County Transportation Plan

Population Change 2001 - 2030



Regional Inset

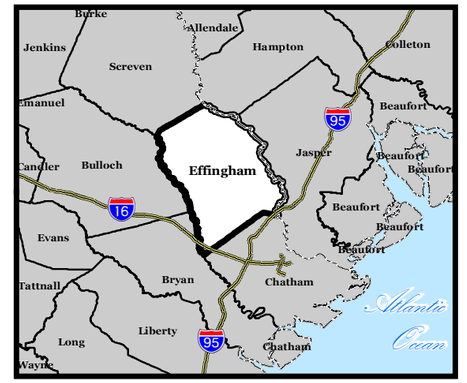


Figure B.5

Legend

Population Change 2001 - 2030

- 1,500 - 4,377
- 751 - 1500
- 251 - 750
- Less than 250
- 00 Census Area ID Number

Road Network

- Interstate
- State Route / U.S. Highway
- Other Roads

Other Layers

- Effingham County Boundary
- Other County Boundary
- City Limits
- Water
- Fort Stewart Military Reservation
- Conservation Areas
- Railroads

Source: GDOT and Jacobs Carter Burgess

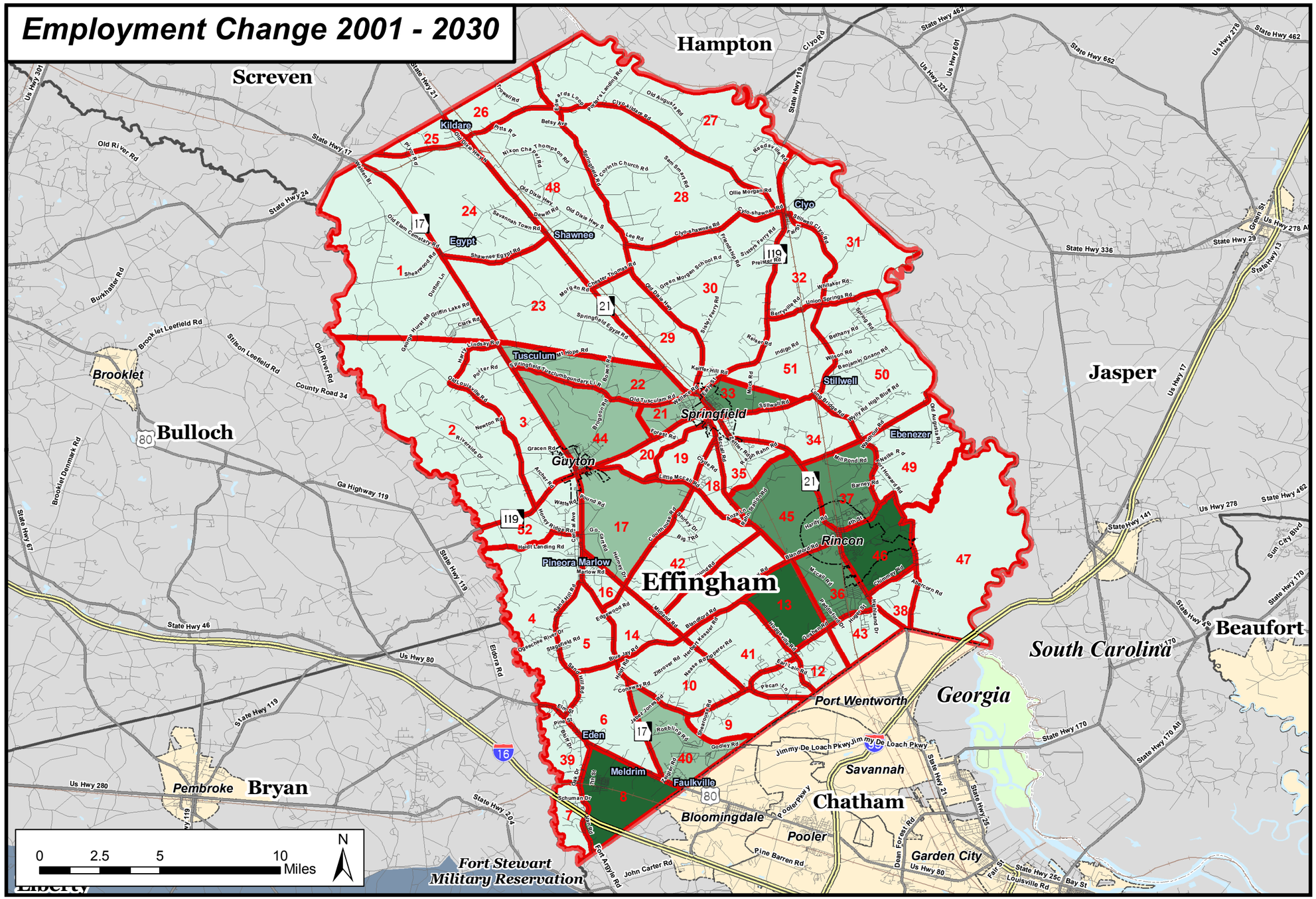
This map is intended for planning purposes only.

July 2008

GDOT Keeping Georgia on the Move
Office of Planning

Effingham County Transportation Plan

Employment Change 2001 - 2030



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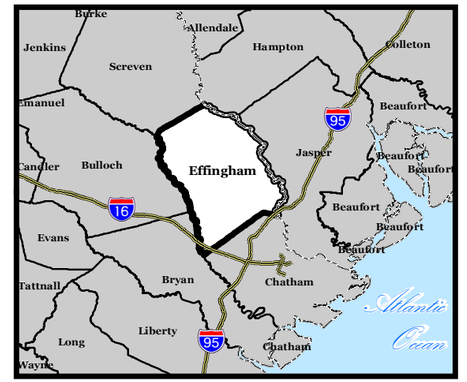

Figure B.6

Legend

Employment Change 2001 - 2030

- 1,500 - 4,467
- 751 - 1500
- 251 - 750
- Less than 250
- 00 Census Area ID Number

Road Network

- Interstate
- State Route / U.S. Highway
- Other Roads

Other Layers

- Effingham County Boundary
- Other County Boundary
- City Limits
- Water
- Fort Stewart Military Reservation
- Conservation Areas
- Railroads

Source: GDOT and Jacobs Carter Burgess

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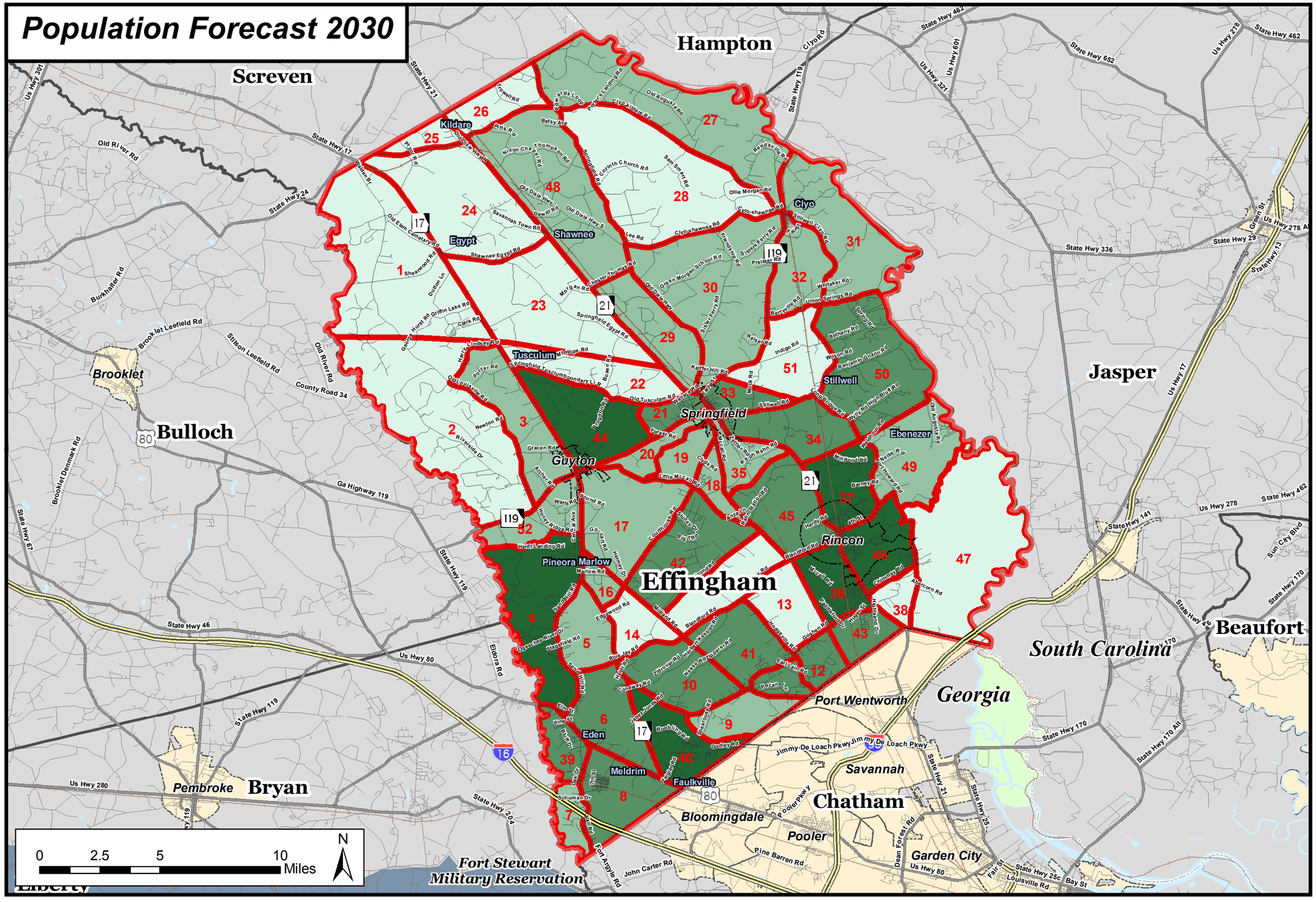
Effingham County Transportation Plan

Population Forecast 2030



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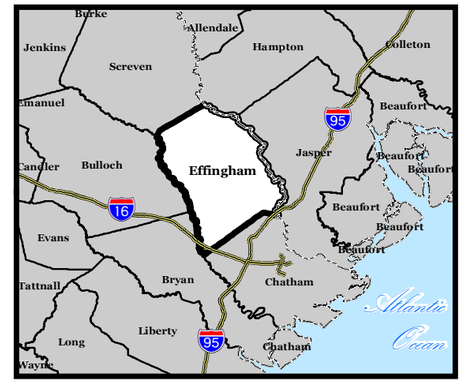

Figure B.7

Legend

Population Forecast 2030

- 2,501 - 7,503
- 1,501 - 2,500
- 501 - 1,500
- Less than 500
- 00 Census Area ID Number

Road Network

- Interstate
- State Route / U.S. Highway
- Other Roads

Other Layers

- Effingham County Boundary
- Other County Boundary
- City Limits
- Water
- Fort Stewart Military Reservation
- Conservation Areas
- Railroads

Source: GDOT and Jacobs Carter Burgess

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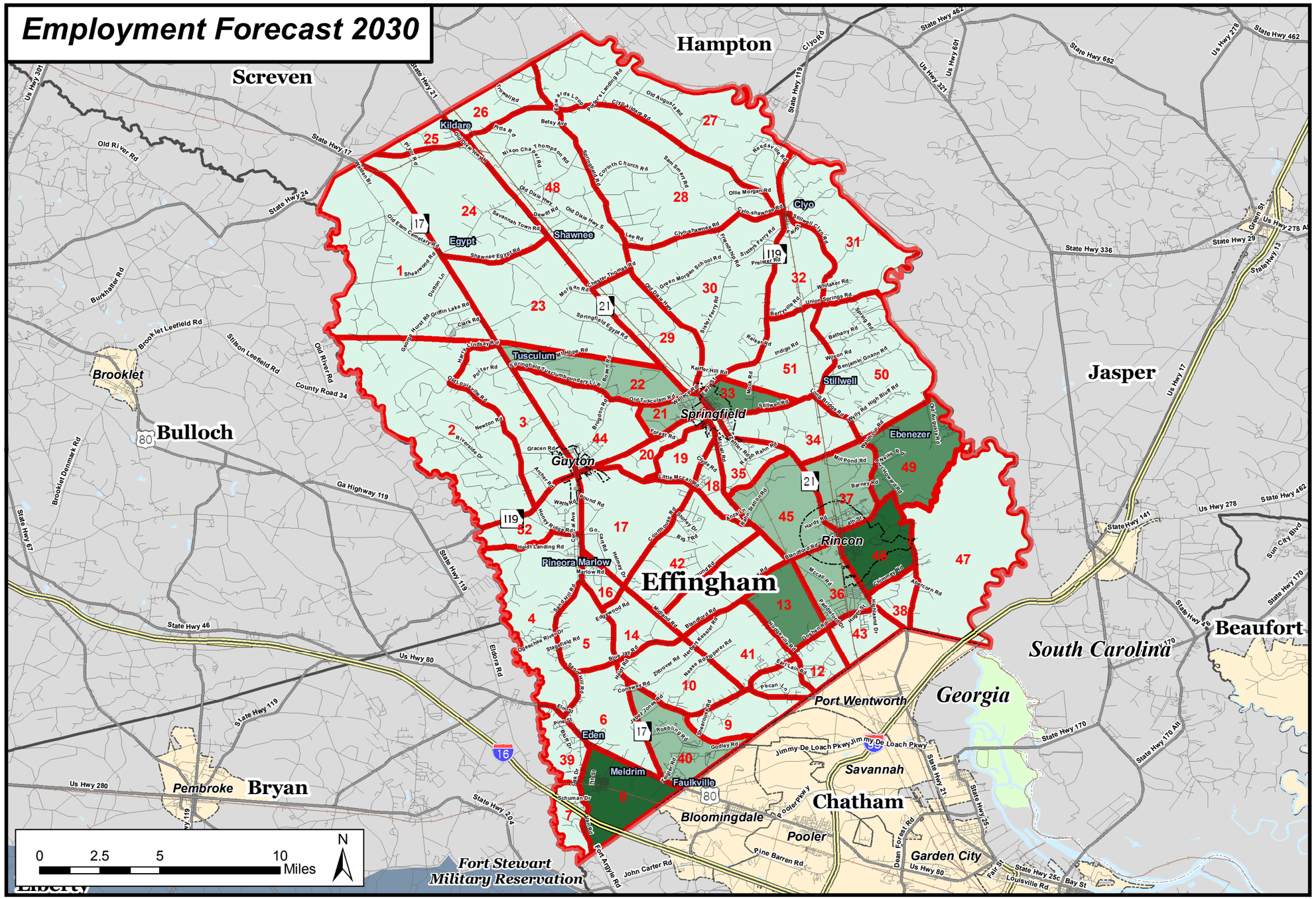
Effingham County Transportation Plan

Employment Forecast 2030



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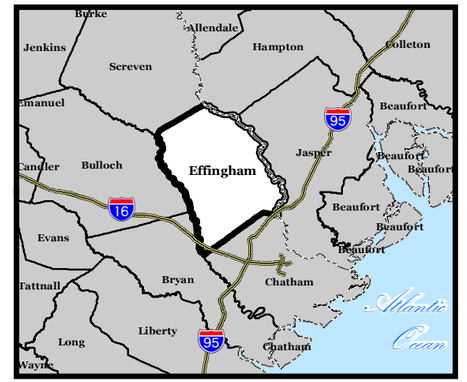

Figure B.8

Legend

Employment Forecast 2030

- 2,501 - 4,644
- 1,501 - 2,500
- 501 - 1,500
- Less than 500
- 00 Census Area ID Number

Road Network

- Interstate
- State Route / U.S. Highway
- Other Roads

Other Layers

- Effingham County Boundary
- Other County Boundary
- City Limits
- Water
- Fort Stewart Military Reservation
- Conservation Areas
- Railroads

Source: GDOT and Jacobs Carter Burgess

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APPENDIX C. Travel Demand Model Development

As a part of Effingham County Transportation Plan, Jacobs Carter Burgess (JCB) developed a travel demand model for the Georgia Department of Transportation (GDOT). A travel demand model is a mathematical tool that predicts future travel demand based on current conditions, planned or proposed transportation facilities, and projections of household and employment characteristics.

Travel demand modeling was used to evaluate the performance of the roadway system in Effingham County. Effingham County's model is a traditional analysis tool that is used to identify where major improvements should be made to its roadway system. Since there is usually more than one strategy proposed to address future congestion and safety concerns, the model is frequently used to study which combination of improvements provides the most benefits. A model, however, is only one resource to identify needs. The next sections describe the general methodology of traditional four-step travel demand modeling and the specific inputs to the Effingham County model network.

Four-Step Modeling

Four-step travel demand modeling implements and iterates the following steps: trip generation, trip distribution, mode split, and network assignment. In essence, where do people travel to and from, in what type of vehicle, and along what route? In this case, potential pedestrian, bicycle, and transit trips were evaluated off-model and so vehicle type (mode split) was not evaluated in Effingham.

Trip Generation

Trip generation is the first step in the traditional four-step model process. It estimates the number of trips that will begin and end in an area known as a Traffic Analysis Zone (TAZ). The origins and destinations of travelers are referred to as "trip ends". Trip ends generated by households are referred to as productions. Trips ends calculated from employment or student enrollments are referred to as attractions. The trip generation process is accomplished by establishing relationships between trips and socioeconomic variables. The process estimates the number of trip ends, or productions and attractions, for each TAZ by various trip purposes. Trip generation determines the total trips generated by each TAZ's socioeconomic characteristics.

The trip generation process includes trip production and trip attraction. Trip production applies trip rates through a cross-classification of household size (1,2,3,4+) and automobiles available (0,1,2,3+) for estimation of internal person trips. Aggregate household data for each TAZ is disaggregated into 16 cross-classified cells using a household stratification model. This model breaks out the total number of households into cross-classification cells using household median income by TAZ. The regression equations are applied to the trip production for vehicle trips. The trip attraction applies regression equations for all trip purposes.

Typically, there are three types of trips that the model includes: (1) Internal-Internal (I-I) trips whose origin and destination are inside the study area; (2) Internal-External (I-E) trips that have one trip end

inside the study area; and (3) External-External (E-E) trips that have both trip ends outside of the study area. I-I trips follow the production and attraction procedures. I-E and E-E trips are developed separately using a different methodology that is heavily dependent on traffic counts observed on the major roads through the study area.

TRIP PURPOSES

Seven trip purposes were included in the trip generation process. These purposes are summarized below:

1. Home Based Work (HBW): person trips made for the purpose of work that begin or end at a traveler's home
2. Home Based Other (HBO): person trips made with one end at the home except those for the purposes of work or shopping
3. Home Based Shopping (HBS): person trips made for the purpose of shopping that begin and end at a traveler's home
4. Non Home Based (NHB): person trips that neither begin nor end at home
5. Trucks (Commercial Vehicles): commercial vehicle trips beginning and ending in the study areas
6. Internal-External Passenger Cars: passenger car trips beginning or ending outside the study area
7. Internal-External Trucks (Commercial Vehicles): commercial vehicle trips beginning or ending outside the study area

HOUSEHOLD STRATIFICATION MODEL

The household stratification model subdivides the total number of households by TAZ into 16 household strata defined by household size and the number of automobiles available. Stratification is done using household median income. The model distributes the total households in a TAZ to each cross-classification cell by calculating a relative probability that a household will be a particular size with a particular number of automobiles. The relative probability is calculated with the following equation:

$$P(i, j) = S \times I \times CF$$

where

P(i, j) = relative probability that a household will be size I and own j autos

S = household size factor from CTPP 2000 lookup table

I = income factor from CTPP 2000 lookup table

CF = composite household factor from GDOT Model Procedures

An estimate of the number of households in a particular cross-classification cell is then calculated by multiplying the total number of households in the TAZ by the corresponding relative probability. The

final number of households in each cross-classification cell is calculated by applying an adjustment factor to each calculated value. The adjustment factor is applied to insure that the sum of resulting disaggregated households equals the original aggregate number of households. This process is represented mathematically with the following equations:

$$HH_{ij}(est.) = HH \times P(i, j)$$

where

$HH_{ij}(est.)$ = Estimated number of households of size I that own j autos

HH = Total number of households in the TAZ

$$HH_{ij} = HH_{ij}(est.) \times F$$

where

HH_{ij} = Final number of households of size I that own j autos

F = $HH / \sum HH_{ij}(est.)$, control total adjustment factor

Tables C.1, C.2, and C.3 show household size distribution, household median income distribution, and Household Size/Income/Auto Ownership Distribution.

Table C.1 Household Size Distribution

Computed Persons/HH Ranges		Household Size			
		1	2	3	4+
0.0	1.0	1.0000	0.0000	0.0000	0.0000
1.0	1.2	0.7709	0.2075	0.0216	0.0000
1.2	1.4	0.7182	0.2331	0.0403	0.0085
1.4	1.6	0.5766	0.3122	0.0722	0.0390
1.6	1.8	0.4358	0.3839	0.1164	0.0639
1.8	2.0	0.3200	0.4500	0.1200	0.1100
2.0	2.2	0.2871	0.4324	0.1393	0.1413
2.2	2.4	0.2637	0.3567	0.1844	0.1953
2.4	2.6	0.2381	0.3298	0.1891	0.2430
2.6	2.8	0.1987	0.3146	0.2017	0.2850
2.8	3.0	0.1801	0.2871	0.2095	0.3232
3.0	3.2	0.1486	0.2948	0.1872	0.3693
3.2	3.4	0.1300	0.2500	0.1850	0.4350
3.4	3.6	0.1300	0.2200	0.1800	0.4700
3.6	3.8	0.1200	0.2100	0.1750	0.4950
3.8	4.0	0.1100	0.2000	0.1700	0.5200
4.0	4.2	0.0500	0.1800	0.1500	0.6200
4.2	4.4	0.0300	0.1300	0.1400	0.7000
4.4	5.0	0.0200	0.0500	0.1300	0.8000

Table C.2 Household Median Income Distribution

TAZ-level Median HH Income		Income Group1	Income Group2	Income Group3	Income Group4
		<$17,500	$175,000 - $34,999	$35,000 - $59,999	>=$60,000
$0	$4,999	0.8009	0.1123	0.0334	0.0534
$5,000	$9,999	0.7150	0.1583	0.0756	0.0512
$10,000	$14,999	0.5959	0.2284	0.1172	0.0584
$15,000	$19,999	0.4256	0.3358	0.1575	0.0812
$20,000	$24,999	0.3347	0.3437	0.2119	0.1098
$25,000	$29,999	0.2523	0.3063	0.2525	0.1889
$30,000	$39,999	0.1715	0.2549	0.3329	0.2407
$40,000	$49,999	0.1076	0.1943	0.3240	0.3741
$50,000	$59,999	0.0887	0.1443	0.2754	0.4916
$60,000	$69,999	0.0666	0.1088	0.2111	0.6135
$70,000	$79,999	0.0473	0.1009	0.1781	0.6738
$80,000	$89,999	0.0450	0.0800	0.1750	0.7000
$90,000	$99,999	0.0410	0.0506	0.1740	0.7343
$100,000	$109,999	0.0340	0.0331	0.1401	0.7928
$110,000	$119,999	0.0200	0.0300	0.0900	0.8600
$120,000	$124,999	0.0000	0.0200	0.0500	0.9300

Table C.3 Household Size/Income/Auto Ownership Distribution

Income Group	Persons Per Household	Autos Available			
		0	1	2	3+
1	1	0.30628	0.66893	0.02479	0.00000
	2	0.09778	0.65778	0.22222	0.02222
	3	0.07326	0.69093	0.16279	0.07302
	4+	0.10000	0.56941	0.17647	0.15412
2	1	0.25483	0.47759	0.22586	0.04172
	2	0.04000	0.21400	0.63200	0.11400
	3	0.11111	0.12556	0.60333	0.16000
	4+	0.09000	0.10797	0.59420	0.20783
3	1	0.18333	0.60560	0.15775	0.05332
	2	0.02740	0.16767	0.63425	0.17068
	3	0.09000	0.10500	0.50333	0.30167
	4+	0.06000	0.04381	0.38619	0.51000
4	1	0.05769	0.66539	0.20000	0.07692
	2	0.06944	0.10444	0.53222	0.29389
	3	0.02000	0.05814	0.50977	0.41209
	4+	0.01892	0.04054	0.54054	0.40000

TRIP PRODUCTION

The trip production uses cross-classified data from the household stratification model and applies trip rates to calculate trip productions for HBW, HBO, HBS, and NHB. **Table C.4** shows trip rates for each purpose.

Table C.4 GDOT Daily Trip Production Rates

Household Size	Auto Available	HBW	HBO	HBS	NHB
1	0	0.285	0.694	0.367	0.245
	1	0.751	1.190	0.411	1.081
	2	0.733	1.300	0.200	1.033
	3+	0.909	1.818	0.636	1.364
2	0	0.750	1.350	0.558	0.500
	1	1.165	1.835	0.882	1.518
	2	1.305	2.360	0.675	1.939
	3+	1.422	2.688	0.688	2.016
3	0	1.556	4.444	0.222	0.889
	1	1.780	4.195	0.585	2.976
	2	1.625	4.048	0.490	2.154
	3+	1.983	3.600	0.733	2.667
4+	0	1.000	5.833	0.417	1.333
	1	1.727	6.523	1.023	2.886
	2	2.109	8.122	0.769	3.184
	3+	2.387	7.312	1.151	3.720

Trip productions for other purposes are calculated using the following regression equations:

I-I Truck Production = $0.8404 \times ManufacturingEmployment + 0.7971 \times RetailEmployment + 1.0197 \times WholesaleEmployment + 0.3424 \times ServiceEmployment + 0.2481 \times Households$

I-E Passenger Car Production = $0.331 \times Households + 0.724 \times TotalEmployment$

I-E Truck Production = $0.078 \times RetailEmployment + 2.149 \times WholesaleEmployment + 0.228 \times ManufacturingEmployment$

TRIP ATTRACTION

The trip attraction uses the following regression equations:

HBW Attraction = $1.196 \times TotalEmployment$

HBO Attraction = $0.5077 \times Population + 0.967 \times TotalEmployment + 1.5258 \times SchoolEnrollment$

HBS Attraction = $2.655 \times RetailEmployment$

NHB Attraction = $0.293 \times Population + 2.82108 \times (RetailEmployment + WholesaleEmployment) + 0.6984 \times ServiceEmployment$

I-I Truck Attraction = I-I Truck Production

I-E Attraction = Based on counts and EE% (internal TAZs=0)

I-E Truck Attraction = Based on counts, EE%, and Truck% (internal TAZs=0)

The total number of I-E trips for each external station is calculated by subtracting the estimated number of E-E trips (based on an assumed percentage) from the daily traffic counts of the station. Then the total I-E trips are separated into I-E passenger car trips and I-E truck trips based on an assumed truck percentage at each external station.

EXTERNAL-EXTERNAL TRIPS

Two external-external (E-E) trip tables were developed for the model, one for passenger cars and the other for trucks. E-E trips are allocated to other external stations based on the magnitude of external trips at the potential destination and the distance between the stations. The higher the traffic count, the more likely it will attract E-E trips. The external trip estimation process assumes that the larger the distance between external stations, the higher the probability that trip interchange will serve E-E trips. For example, typically, the distance between two external stations on either end of an interstate facility would be longer and, likewise, the number of trips that will travel between the two external stations on either end of the interstate would be higher.

Trip Distribution

The trip distribution uses the gravity model process, a commonly used tool that estimates the number of trips between places based a cost such as time or distance. The estimated number of trips between any two origin-destination zones will, in general, be proportional to the number of trip ends and inversely proportional to the travel time between these two zones. The gravity model computes trips such that the resulting distribution matches an observed distribution of trips by travel time for each of the trip purposes.

Minimum time paths for the network are calculated using Cube Voyager function. These times include turn prohibitions and turn penalties. The minimum times are then adjusted to include intrazonal times, terminal times, and topographical penalties. Intrazonal times, the average time it takes to make a trip inside a particular TAZ, are created by the Cube Voyager function using travel time to the nearest four TAZs. Terminal times are assigned based on the employment density of the origin and destination TAZs. At the trip origin end, terminal time generally refers to the time walking from residence to cars. At the trip destination end, it generally represents the time to go from cars to destination. **Table C.5** summarizes the terminal time criteria.

Table C.5 Terminal Time Criteria (Minute)

	Employment Density (Total Employment Per Acre)					
Zone	0 - 1.00	1.01 - 15.00	15.01 - 25.00	25.01 - 50.00	50.01 - 75.00	>75.00
Origin	1	1	2	2	2	2
Destination	1	2	3	4	5	6

Gravity model input consists of a set of travel time impendence factors (friction factors), in addition to production trip ends, attraction trip ends and minimum time skim. These parameters force the gravity model to produce sets of trips by trip purpose, whose distributions approximate an observed travel time distribution. The friction factors for the model are calculated by one minute travel time increments.

Four of trip tables, computed in the trip distribution process, are estimated in terms of person trips. For trip assignment process, the four person trip tables are converted to vehicle trips. The four trip tables are HBW, HBO, HBS, and NHB. The other trip tables, for I-E and E-E trips, were calculated in terms of

vehicle trips at their inception. Conversion to vehicle trip table enables comparison to vehicle counts and capacity analyses. **Table C.6** shows vehicle occupancy rates used in the model.

Table C.6 Occupancy Rate

Trip Purpose	Occupancy Rate
Home Based Work	1.12
Home Based Other	1.65
Home Based Shopping	1.48
Non Home Based	1.68
Trucks	No adjustment, already vehicle trip
I-E Passenger Cars	No adjustment, already vehicle trip
I-E Trucks	No adjustment, already vehicle trip

Traffic Assignment

The last step in modeling sequence is traffic assignment. Trip assignment for the model is accomplished using equilibrium assignment technique. The traffic assignment algorithm is iterative, running through successive applications until equilibrium occurs. Equilibrium occurs when no trip can be made by an alternate path without increasing total travel time of all trips on the network. Equilibrium assignment is an iterative process that reflects travel demand assigned to minimum time paths as well as the effects of congestion. In each iteration, traffic volumes are loaded onto network links and travel times are adjusted in response to volume to capacity relationships.

Components of the Travel Demand Model

The development of Effingham County travel demand model included (1) traffic analysis zone boundaries, (2) base year 2001 socioeconomic data, (3) base year model network, (4) base year model calibration and validation, (5) future year 2030 SE data, (6) future year existing plus committed model; and (7) future year build model. Each of these components is described in further detail in the next sections.

TAZ Boundaries

The unit of geography most commonly used in travel demand model, a traffic analysis zone (TAZ), usually consists of one or more census blocks or block groups. Within each TAZ, population, households, and employment totals area derived and used as model input for trip generation. After reviewing the census block boundaries and roadways in Effingham County, 52 TAZs were defined. The TAZ boundaries follow major highways so that major highways do not split TAZs. **Figure C.1** depicts the TAZ boundaries.

Effingham County Transportation Plan

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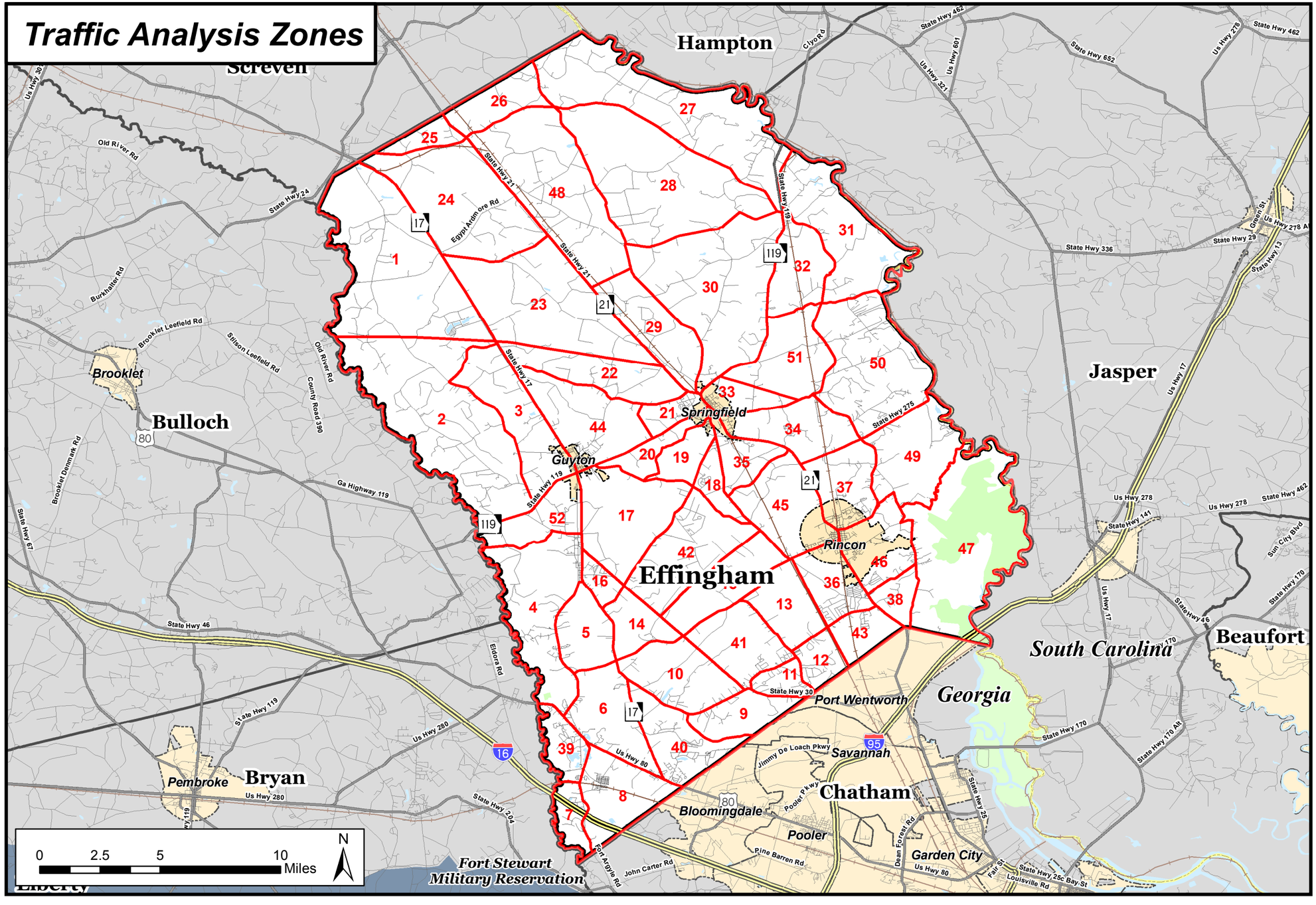
Traffic Analysis Zones



Regional Inset

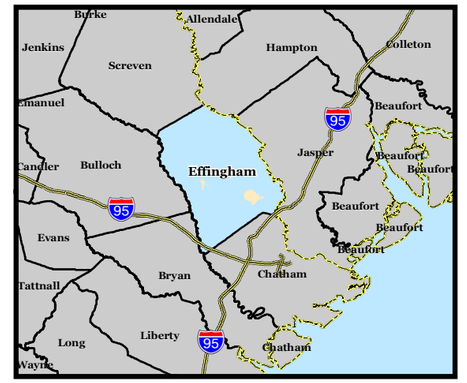


Figure C.1

Legend

Traffic Analysis Zones (TAZ)

- Traffic Analysis Zones
- 00 Traffic Analysis Zone ID

Road Network

- Interstate
- State Route / U.S. Highway
- Other Roads

Other Layers

- Effingham County Boundary
- Other County Boundary
- City Limits
- Water
- Fort Stewart Military Reservation
- Conservation Areas
- Railroads

Source: Census 2000, GDOT, and Jacobs Carter Burgess

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Socioeconomic Data

Table C.7 shows socioeconomic (SE) data required and descriptions for each TAZ. Appendix B, Overview of Socioeconomic Data Forecasting, describes the methodology of SE data projection. **Tables C.8 and C.9** provide 2001 and 2030 SE data by TAZ, respectively.

Table C.7 Socioeconomic Data Required by TAZ

Data Variable	Description
Population	the total number of individuals that are residing in a TAZ
Households	the total number of occupied households in a TAZ
Median Income	household median income in TAZ in 2000 dollar
Retail Employment	the number of employees working for retail business at work places in a TAZ
Service Employment	the number of employees working for service business at work places in a TAZ
Manufacturing Employment	the number of employees working for manufacturing at work places in a TAZ
Wholesale Employment	the number of employees working for wholesale business at work place in a TAZ
Total Employment	the total number of employees at work places in a TAZ
School Enrollment	The total number of enrolled students at school locations in a TAZ
Acres	area of a TAZ in acre

Table C.8 2001 SE Data by TAZ

TAZ	HH	Population	Employment					School Enrollment	Acres	Median Income	Cent-riod
			Retail	Service	Manuf.	Whole	Total				
1	92	229	0	0	3	0	3	0	16,482	30,000	590
2	109	292	0	22	0	0	22	0	17,224	45,355	591
3	217	593	37	38	0	0	75	500	6,500	45,355	592
4	503	1,416	1	15	0	2	18	0	9,143	45,355	593
5	174	481	0	73	0	0	73	900	3,500	39,880	594
6	236	646	0	110	19	3	132	700	5,163	39,880	595
7	190	537	0	6	0	0	6	0	1,885	26,125	596
8	338	845	13	129	35	0	177	0	5,224	46,475	597
9	205	604	0	69	0	0	69	800	3,182	39,880	598
10	395	1,042	0	22	188	0	210	0	5,267	39,880	599
11	255	860	0	16	0	0	16	0	1,452	68,200	600
12	223	633	9	0	35	0	44	0	1,885	68,200	601
13	73	195	0	0	0	0	0	0	3,759	48,475	602
14	66	209	8	110	0	0	118	0	2,651	39,880	603
15	72	203	0	4	0	0	4	0	4,625	48,475	604
16	192	537	0	2	0	0	2	0	1,152	45,355	605
17	176	464	0	149	9	0	158	0	7,643	42,000	606
18	211	632	0	2	0	0	2	0	1,565	42,000	607

Table C.8 2001 SE Data by TAZ, Continued

TAZ	HH	Population	Employment					School Enrollment	Acres	Median Income	Cent-riod
			Retail	Service	Manuf.	Whole	Total				
19	148	398	9	46	30	2	87	400	2,064	42,000	608
20	143	468	2	8	0	5	15	1,900	1,940	42,680	609
21	243	1,018	12	250	0	0	262	0	1,552	42,680	610
22	87	261	36	243	0	0	279	0	5,105	45,335	611
23	105	281	0	5	0	0	5	0	12,332	45,335	612
24	74	209	11	4	0	0	15	0	11,199	30,000	613
25	15	44	0	0	0	0	0	0	1,548	30,000	614
26	22	49	7	18	0	0	25	0	3,326	30,000	615
27	171	497	9	5	30	2	46	0	14,770	30,000	616
28	121	347	0	27	0	0	27	0	15,104	45,335	617
29	143	434	0	9	0	0	9	0	5,124	46,085	618
30	289	769	0	110	0	0	110	0	14,210	46,085	619
31	127	400	0	0	0	0	0	0	8,816	39,315	620
32	169	451	0	0	0	0	0	0	4,203	39,315	621
33	316	786	15	460	0	7	482	400	1,984	41,250	622
34	344	946	3	37	0	12	52	0	4,798	44,775	623
35	200	529	31	168	0	10	209	0	2,438	42,680	624
36	1018	3,026	45	209	12	0	266	0	3,452	51,820	625
37	674	1,902	44	168	9	0	221	1800	4,200	51,820	626
38	25	61	51	16	15	5	87	0	1,587	49,090	627
39	371	1,015	23	30	2	1	56	0	2,332	39,880	628
40	785	2,249	15	255	0	0	270	0	4,725	50,625	629
41	300	918	0	104	0	0	104	0	4,731	68,200	630
42	324	1,000	0	6	0	0	6	0	6,856	42,000	631
43	255	821	0	8	0	0	8	0	2,294	49,090	632
44	451	1,386	6	139	0	5	150	0	6,668	42,680	633
45	333	918	35	465	149	15	664	0	5,881	51,820	634
46	1177	3,176	431	656	1	1	1,089	0	4,263	55,565	635
47	74	214	0	7	0	0	7	0	14,783	49,090	636
48	200	496	5	31	0	1	37	0	12,574	45,335	637
49	143	399	0	6	1,426	0	1,432	0	6,473	51,820	638
50	366	1,052	0	54	0	0	54	0	10,428	39,315	639
51	88	249	0	4	0	0	4	0	5,347	39,315	640
52	123	348	0	11	0	2	13	0	3,587	45,355	641

Table C.9 2030 SE Data by TAZ

TAZ	HH	Population	Employment					School Enrollment	Acres	Median Income	Centriod
			Retail	Service	Manuf.	Whole	Total				
1	121	301	0	0	3	0	3	0	16,482	30,000	590
2	139	371	0	41	0	0	41	0	17,224	45,355	591
3	367	1,003	77	95	0	0	172	738	6,500	45,355	592
4	1,062	2,988	2	42	0	1	45	0	9,143	45,355	593
5	360	995	0	154	0	0	154	1,328	3,500	39,880	594
6	587	1,607	0	283	23	2	308	1,033	5,163	39,880	595
7	401	1,133	0	13	0	0	13	0	1,885	26,125	596
8	997	2,492	38	2,736	1,869	0	4,643	0	5,224	46,475	597
9	433	1,275	0	108	0	0	108	1,180	3,182	39,880	598
10	867	2,287	0	45	198	0	243	0	5,267	39,880	599
11	570	1,923	0	31	0	0	31	0	1,452	68,200	600
12	536	1,522	17	0	44	0	61	0	1,885	68,200	601
13	160	428	0	1,587	795	0	2,382	0	3,759	48,475	602
14	139	441	15	216	0	0	231	0	2,651	39,880	603
15	152	428	0	8	0	0	8	0	4,625	48,475	604
16	365	1,021	0	4	0	0	4	0	1,152	45,355	605
17	401	1,057	0	447	11	0	458	0	7,643	42,000	606
18	410	1,228	0	4	0	0	4	0	1,565	42,000	607
19	337	907	20	124	36	1	181	590	2,064	42,000	608
20	326	1,066	5	25	0	3	33	2,805	1,940	42,680	609
21	472	1,978	28	700	0	0	728	0	1,552	42,680	610
22	143	430	70	571	0	0	641	0	5,105	45,335	611
23	142	381	0	10	0	0	10	0	12,332	45,335	612
24	110	310	21	9	0	0	30	0	11,199	30,000	613
25	19	56	0	0	0	0	0	0	1,548	30,000	614
26	31	68	12	38	0	0	50	0	3,326	30,000	615
27	225	653	15	10	30	1	56	0	14,770	30,000	616
28	134	383	0	40	0	0	40	0	15,104	45,335	617
29	206	625	0	17	0	0	17	0	5,124	46,085	618
30	380	1,010	0	222	0	0	222	0	14,210	46,085	619
31	167	525	0	0	0	0	0	0	8,816	39,315	620
32	222	592	0	0	0	0	0	0	4,203	39,315	621
33	693	1,725	36	1,501	0	4	1,541	590	1,984	41,250	622
34	755	2,076	6	104	0	7	117	0	4,798	44,775	623
35	389	1,028	50	323	0	6	379	0	2,438	42,680	624
36	2,490	7,402	123	1,059	214	0	1,396	0	3,452	51,820	625
37	1,705	4,812	117	537	613	0	1,267	2,657	4,200	51,820	626
38	55	134	87	31	20	3	141	0	1,587	49,090	627
39	892	2,440	52	77	2	1	132	0	2,332	39,880	628
40	1,953	5,596	35	711	0	0	746	0	4,725	50,625	629

Table C.9 2030 SE Data by TAZ, Continued

TAZ	HH	Population	Employment					School Enrollment	Acres	Median Income	Centriod
			Retail	Service	Manuf.	Whole	Total				
41	696	2,130	0	212	0	0	212	0	4,731	68,200	630
42	602	1,859	0	13	0	0	13	0	6,856	42,000	631
43	602	1,939	0	17	0	0	17	0	2,294	49,090	632
44	857	2,634	15	440	0	3	458	0	6,668	42,680	633
45	787	2,169	76	1,176	205	9	1,466	0	5,881	51,820	634
46	2,780	7,502	1,114	2,087	1	1	3,203	0	4,263	55,565	635
47	156	452	0	10	0	0	10	0	14,783	49,090	636
48	279	693	9	68	0	1	78	0	12,574	45,335	637
49	284	792	0	11	1601	0	1,612	0	6,473	51,820	638
50	665	1,911	0	109	0	0	109	0	10,428	39,315	639
51	160	452	0	8	0	0	8	0	5,347	39,315	640
52	249	705	0	27	0	1	28	0	3,587	45,355	641

Base Year Network Development

The model network was developed by extending the network of the travel demand model for Chatham County Interstate Needs Analysis and Prioritization Plan. Therefore, the network for Effingham County covers both Effingham and Chatham County. **Figure C.2** displays the base year 2001 network.

The highway network consists of links and nodes that represent roadway segments and intersections. The attributes of links contain characteristics of roadways such as free flow speed, distance, number of lanes, area type (according to density of population and employment), facility type (similar to functional classification) and capacity. The attributes of nodes contain positional, two dimensional x and y coordinates to enable the network file to be displayed pictorially.

FACILITY TYPE AND AREA TYPE.

Individually and in combination these two link attributes provide a framework for organizing a network into sub-groups so that free-flow speed and capacity can be assigned. In combination with the distance and number of lanes, these attributes constitute the base layer of highway network data needed to update and apply the model. The facility type and area type definitions used in the network and modeling process are shown in **Tables C.10 and C.11.**

Effingham County Transportation Plan

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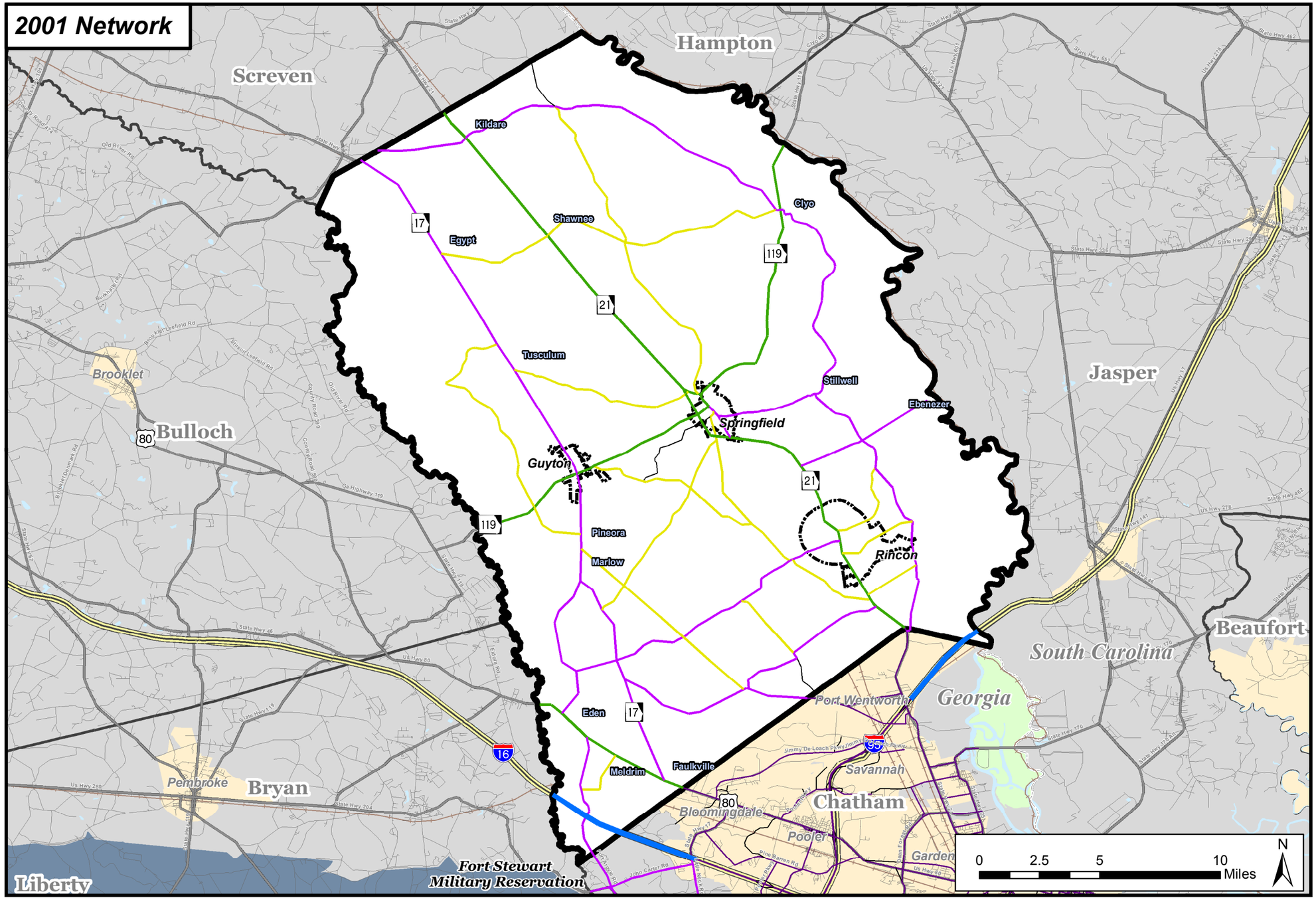
2001 Network



Regional Inset

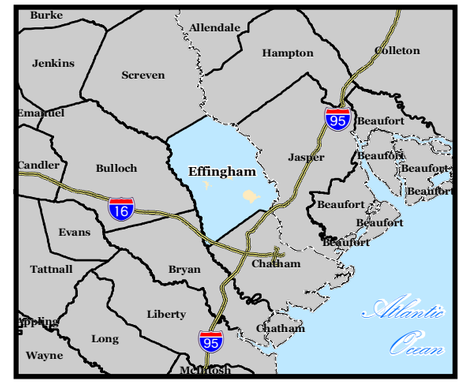


Figure C.2

Legend

2001 Network

- Interstate
- Minor Arterial
- Major Collector
- Minor Collector
- Local Road

Road Network

- Interstate
- State Route / U.S. Highway
- Other Roads

Other Layers

- Effingham County Boundary
- Other County Boundary
- City Limits
- Water (Outside Effingham County)
- Fort Stewart Military Reservation
- Conservation Areas
- Railroads

Source: GDOT, ESRI, and Jacobs Carter Burgess

This map is intended for planning purposes only.

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Table C.10 Facility Type

Code	Facility Type
1	Interstate
2	Freeway
3	Expressway
4	Parkway
6	Freeway to Freeway Ramp
7	Freeway Entrance Ramp
8	Freeway Exit Ramp
11	Principal Arterial – Class I
12	Principal Arterial – Class II
13	Minor Arterial – Class I
14	Minor Arterial – Class II
15	One Way Arterial
21	Major Collector
22	Minor Collector
23	One Way Collector
30	Local Road
32	Centroid Connector

Table C.11 Area Type

Code	Area Type
1	High Density Urban
2	High Density Urban Commercial
3	Urban Residential
4	Suburban Commercial
5	Suburban Residential
6	Exurban
7	Rural

CAPACITY

Link capacities for the model network are obtained from a lookup table of per-lane hourly capacities based on facility type and area type. The final link capacity is calculated by multiplying the per-lane hourly capacity by the number of lanes. **Table C.12** displays capacities.

SPEED.

Link speed in the model network is derived from a speed lookup table based on facility type and area type. The speeds are shown in **Table C.13**.

Table C.12 Hourly Capacity per Lane

No	Facility Type	Area Type						
		1	2	3	4	5	6	7
1	Interstate	1900	1900	2000	2000	2200	2200	2000
2	Freeway	1800	1800	1900	1900	2000	2000	1900
3	Expressway	1300	1300	1400	1400	1500	1500	1400
4	Parkway	1200	1200	1300	1300	1400	1400	1300
6	Freeway to Freeway Ramp	1600	1600	1800	1800	1900	1900	1800
7	Freeway Entrance Ramp	1400	1400	1700	1700	1800	1800	1700
8	Freeway Exit Ramp	1200	1200	1400	1400	1600	1600	1400
11	Principal Arterial – Class I	1100	1000	1200	1200	1400	1400	1200
12	Principal Arterial – Class II	900	900	1000	1000	1100	1100	1000
13	Minor Arterial – Class I	800	800	900	900	1000	1000	900
14	Minor Arterial – Class II	700	700	800	800	900	900	800
15	One Way Arterial	750	750	850	850	950	950	850
21	Major Collector	600	600	700	700	800	800	700
22	Minor Collector	500	500	600	600	700	700	600
23	One Way Collector	550	550	650	650	750	750	650
30	Local Road	400	400	500	500	600	600	500
32	Centroid Connector	0	0	0	0	0	0	0

Table C.13 Speed Table

No	Facility Type	Area Type						
		1	2	3	4	5	6	7
1	Interstate	55	60	60	60	60	70	70
2	Freeway	50	55	55	55	55	60	60
3	Expressway	50	50	50	50	55	55	55
4	Parkway	45	50	50	50	50	55	55
6	Freeway to Freeway Ramp	55	55	55	55	55	55	55
7	Freeway Entrance Ramp	45	50	50	50	50	55	55
8	Freeway Exit Ramp	22	23	30	31	34	40	47
11	Principal Arterial – Class I	25	28	33	34	37	47	52
12	Principal Arterial – Class II	23	26	31	32	35	45	49
13	Minor Arterial – Class I	22	23	30	31	34	40	47
14	Minor Arterial – Class II	21	22	27	30	32	38	45
15	One Way Arterial	23	26	30	32	35	42	48
21	Major Collector	17	18	21	27	29	34	42
22	Minor Collector	14	15	18	24	26	30	40
23	One Way Collector	17	18	21	27	29	34	42
30	Local Road	14	14	17	18	22	28	35
32	Centroid Connector	14	14	17	18	22	28	35

Base Year Model Calibration

The base year 2001 model was calibrated to replicate 2001 traffic counts from GDOT. The model validation results are summarized as below.

PERCENT DEVIATION BY LINK

A reasonable expectation is for a model to accurately estimate number of lanes required for a facility to provide a specified level of service. As annual average daily traffic (AADT) on a facility increases, the expected accuracy of a model increases as well. **Figure C.3** shows deviation between 2001 volumes assigned by the model with observed traffic counts.

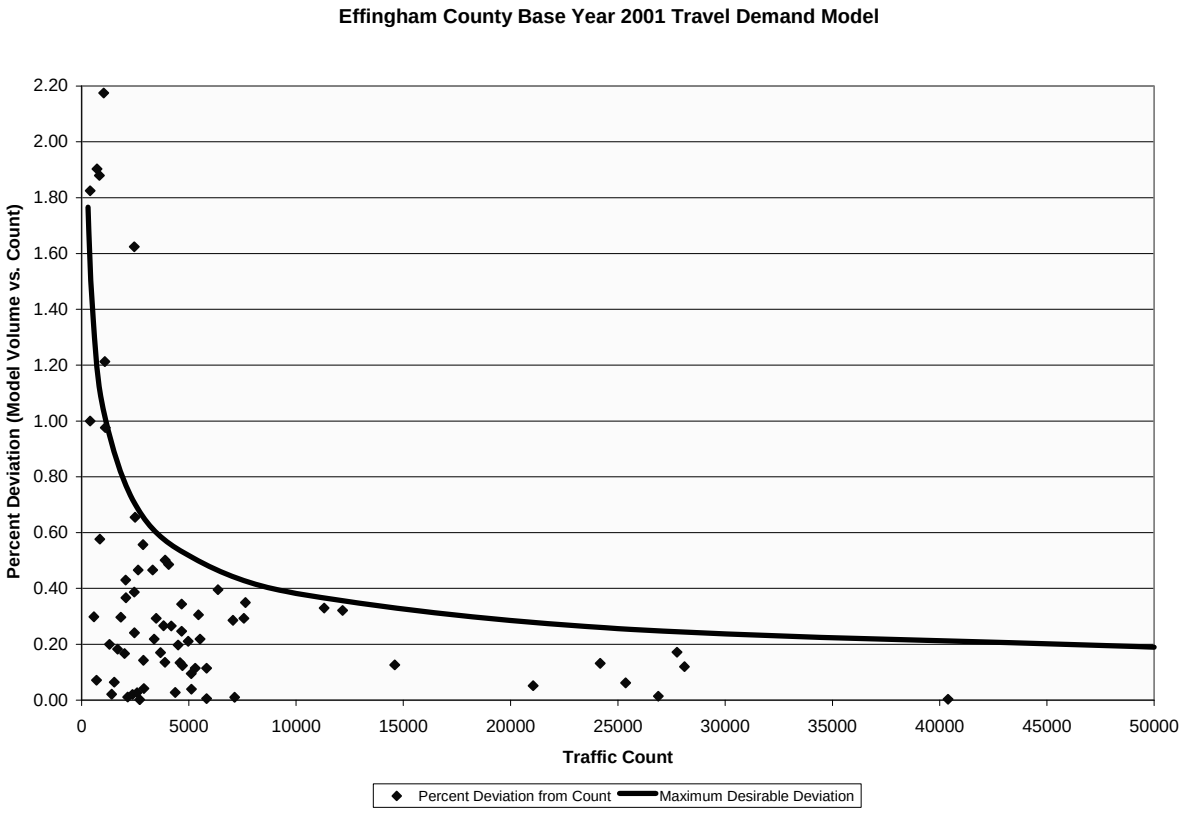


Figure C.3 Percent Deviation in 2001 Model

The percent deviation is calculated as follows:

Percent Deviation = (Base Year Volume Assigned – Base Year Count)/Base Year Count

Maximum desired deviation, represented by a thick, downward sloping curve, is relatively high for low volume facilities and much smaller for higher volume links. The link-level model deviation points are concentrated in the lower left corner of the graph, below the maximum desirable deviation line. The

graph is comprised of modeled volumes versus counts deviations from 68 links on the highway network. These data points illustrate (1) the deviation of 91% test links in the highway network are within maximum desirable deviation, and (2) six links whose deviation points are located above the maximum desirable deviation; however, these six traffic counts are below 2,500 vehicles per day.

Screenline Comparison

Seven screenlines were selected to intercept major traffic flows through Effingham County. Assigned volumes in 2001 model are compared with 2001 traffic counts at each screenline crossing. In evaluating screenlines during a model calibration, the maximum desirable deviation is from NCHRP 255. **Figure C.4** depicts each screenline used in the calibration and validation of the base year model. **Table C.14** summarizes screenline analysis.

Table C.14 Screenline Analysis

Screen-line	Description	Count	Volume	Percent Deviation	Maximum Desirable Deviation*
1	South of County line	8,240	10,050	22%	+/-42%
2	North of Effingham County	8,450	9,530	14%	+/-41%
3	North of SR 119	16,550	18,070	9%	+/-31%
4	South of Effingham County	32,400	33,950	5%	+/-23%
5	North of Chatham County line	71,850	77,590	8%	+/-16%
6	East of SR 17	12,220	10,700	-12%	+/-35%
7	East of SR 21	6,410	8,010	25%	+/-46%
	Total	156,120	167,900	8%	+/-12%

* FHWA *Model Calibration and Reasonableness Checking Manual*

Percent Error Countywide

Percent error is the total assigned traffic volumes divided by the total counted traffic volumes for all links that have traffic counts. The percent error systemwide should be less than five percent. The percent error for the Effingham County base year model is two percent, which is within the target five percent.

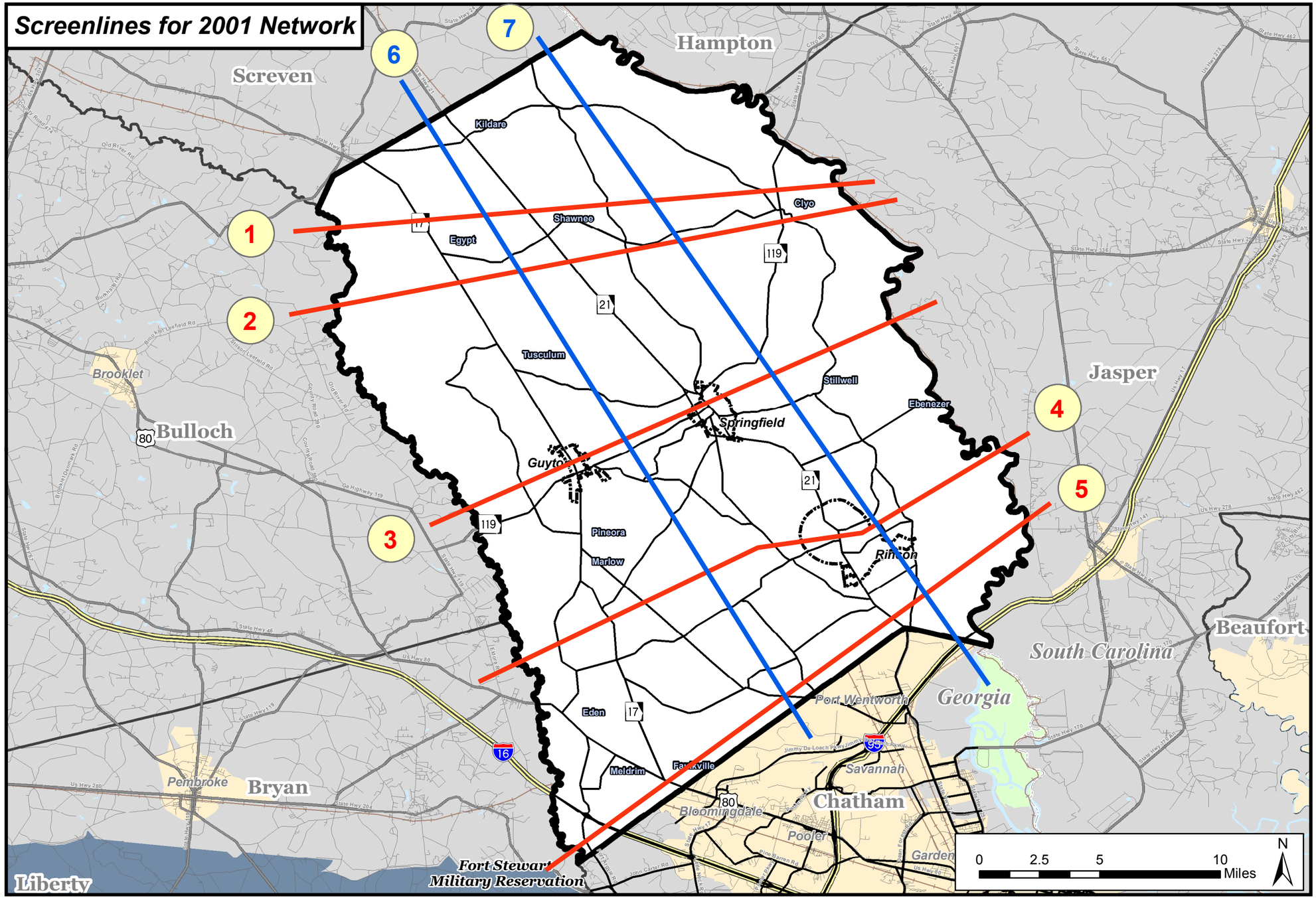
Percent Deviation by Volume Group

Assignment by volume groups is used to assess model performance against aggregate traffic counts on roads categorized by traffic volumes. **Table C.15** compares the model performance to recommended FHWA desirable ranges for the different volume groups. As this table shows, all model volumes fall within the recommended guidelines.

Effingham County Transportation Plan

GDOT Keeping Georgia on the Move — Office of Planning

Screenlines for 2001 Network



Regional Inset

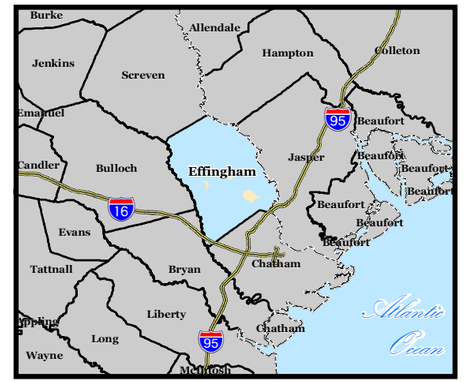


Figure C.4

Legend

Screenlines

- Screenlines 1 - 5
- Screenlines 6 - 7
- # Screenline Number

Road Network

- Interstate
- State Route / U.S. Highway
- Other Roads

Other Layers

- Effingham County Boundary
- Other County Boundary
- City Limits
- Water (Outside Effingham County)
- Fort Stewart Military Reservation
- Conservation Areas
- Railroads

Source: GDOT, ESRI, and Jacobs Carter Burgess

This map is intended for planning purposes only.

JACOBS Carter Burgess

Table C.15 Percent Deviation by Volume Group

Volume Group	Links with Counts	Mean Count	Mean Model Volume	Percent Deviation	Maximum Desirable Deviation*
<=1000	7	640	1,020	59%	+/-60%
1,000-2,500	17	1,850	2,270	23%	+/-47%
2,500-5,000	22	3,760	3,870	3%	+/-36%
5,000-10,000	12	6,160	5,750	-7%	+/-29%
10,000-25,000	5	16,660	16,740	0%	+/-25%
>25,000	5	29,700	29,830	0%	+/-22%
All Links	68	6,240	6,360	2%	

***** FHWA *Model Calibration and Reasonableness Checking Manual*

Percent Deviation by Functional Classification

Table C.16 compares model performance to recommended FHWA desirable ranges for assignment by roadway functional classification. As the table shows, all model volumes fall within the recommended guidelines.

Table C.16 Percent Deviation by Functional Classification

Functional Classification	Links with Counts	Mean Count	Mean Model Volume	Percent Deviation	Maximum Desirable Deviation*
Freeway	3	31,790	33,080	4%	+/-7%
Principal Arterial	0	0	0	0%	+/-10%
Minor Arterial	26	7,920	7,920	0%	+/-15%
Collector	39	3,160	3,270	4%	+/-25%
All Links	68	6,240	6,360	2%	

***** FHWA *Model Calibration and Reasonableness Checking Manual*

Correlation Coefficient

A correlation coefficient is calculated using pairs of model volumes and traffic counts, and should typically be greater than 0.88. The correlation coefficient for the base year model is 0.96, which is above the acceptable threshold.

Root Mean Square Error

Root Mean Square Error (RMSE) is a general statistical measure of how close the model volumes to traffic counts. With all available traffic counts in the network, the RMSE is calculated to be 25%. A suggested appropriate aggregate RMSE is less than 30%; therefore, the result is within the acceptable threshold.

DETERMINE ROADWAY DEFICIENCIES

Deficient sections of roadway are identified by level of service (LOS) on all roadways contained in a highway network. LOS is used by traffic engineers and transportation planners to describe the degree of maneuverability and comfort that motorists could expect driving on a particular section of road. LOS is from A to F, with LOS A representative of free flow operation conditions and available space for drivers to maneuver safely on the road. As LOS drops toward F, there is increasingly less space available for motorists to maneuver. When LOS reaches F, there is not any room left on the road for other vehicle and there are stop and go conditions. Typically, transportation decision-makers identify projects and make plans that will result in acceptable LOS.

Volume to capacity (v/c) ratio is calculated for each section of roads in the network. LOS E is equivalent to a v/c ratio of 1.00. Since link capacities in the model are based on LOS E service volumes, LOS F begins when the forecasted volumes begin to consume 100% of the LOS E capacity on a facility. **Table C.17** shows threshold of v/c ratio in relation with LOS.

LOS C is acceptable LOS for identifying deficient roads or corridors in developing the Effingham County Transportation Plan. Therefore, the sections of roads with v/c over 0.70 are considered capacity deficiency.

Table C.17 LOS and v/c Ratio

LOS	v/c Ratio
A or B or C	<0.70
D	0.7 to 0.85
E	0.85 to 1.00
F	>1.00

2030 E+C Model

After having calibrated and validated the base year 2001 model, JCB used it to assist GDOT and Effingham County in evaluating of alternatives in future year 2030 transportation systems.

The E+C (existing plus committed) network represents existing and future transportation infrastructure for which a committed funding source exists, and typically includes programmed projects in the most current regional Transportation Improvement Program (TIP). In the case of the Effingham County model, 2030 E+C projects are currently programmed in the state's TIP, the STIP, and include projects for which right-of-way has been funded or purchased or funding for construction is committed.

The 2030 E+C model is run with 2030 SE data, and is used to forecast and analyze the condition of transportation infrastructure based on current levels of investment. It highlights areas of future need based on defined performance measures such as congestion, travel time or delay.

2030 Build Model

After evaluating 2030 E+C model results and identifying capacity deficient roadways, JCB worked with GDOT and Effingham County to determine potential capacity improvement projects such as new roads or widening roads . JCB applied the model to evaluate the potential projects. The model results show better condition with the recommended projects in Effingham County. **Table6.2** in the report shows the recommended projects with descriptions.

APPENDIX D. Preliminary Field and Environmental Screening of Selected Projects

In assessing the suitability of draft transportation project recommendations, a preliminary field and environmental screening was undertaken on a number of projects that were of special importance to the transportation network or involved significant amounts of right-of-way. Certain projects that fell primarily within Developments of Regional Impact (DRI) or were already in the State or County Transportation Improvement Programs were not evaluated at this time given that detailed environmental assessments will be undertaken as part of their approval processes. During the screening, field surveys documented potentially sensitive natural, historic, and other features in the proximity of suggested improvements. A list of the projects selected for preliminary screening is shown in **Table D.1** below, and the results follow over the next 24 pages. Refer to Chapter 6 and Appendix E for project maps and detailed descriptions.

Table D.1 Recommended Projects that Underwent Preliminary Environmental Screening

Project ID	Facility	Extents	Type of Improvement
55	Mock Rd	SR 21 to Stillwell Rd (Springfield)	New two-lane road
84	Meldrim-Jabez Jones Connector	US 80 to Jabez Jones Rd	New two-lane road with sidewalks and bike lanes
88	Old River Rd	US 80 to John Carter Rd in Chatham County	Roadway widening (2-->4 lanes)
91	Sandhill Rd, Segment 1	US 80 to Blue Jay Rd	Addition of occasional turn lanes with bike lanes and sidewalks
101	US 80	SR 17 to Sand Hill Rd	Roadway widening (2-->4 lanes) with bike lanes and sidewalks
124	North Carolina Ave	W 17th to North Ridge Dr	New two-lane road with bike shoulder and sidewalk
126	Fort Howard Rd	SR 21 to Old Augusta Rd	Addition of occasional turn lanes with bike lanes and sidewalks
127	Fort Howard Rd	SR 21 to RR tracks (to McCall Rd +, eventually)	New two-lane road with bike lanes and sidewalks
130	Richland Rd	10th St to Ft Howard Rd	New two-lane road
133	SR 21	Effingham/Chatham county line to Ft Howard Rd	Widening (4 --> 6 lanes) + 8' Multi-Use Path on Sidewalks - Both Sides
134	SR 21	Effingham/Chatham county line to 4th St	Multi-Use Path on both sides
78	SR 119	SR 119 to SR 21 (in Springfield, not bypass)	Widening (2-->3 lanes) + 8' Multi-Use Path on both sides (minimum of south side)
39, 123	Blue Jay Road	entire length	Widening (2-->3 lanes) + 8' Multi-Use Path on both sides

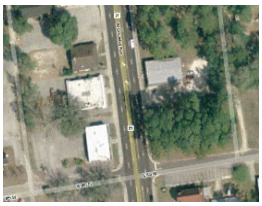
SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: SR 21, from Chatham County Line to 4th St in Rincon (#133, 134)

APPROXIMATE DISTANCE FROM COUNTY LINE	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
PROJECT 133 (FROM CHATHAM COUNTY LINE TO FORT HOWARD ROAD)			
0.4 miles	Crosses Road	Powerline Easement	
1.1 miles	Southbound Side of One-way Pairs	GA Power Substation	
1.2 miles	Southbound Side of One-way Pairs	Goshen Methodist Church and Cemetery	
1.2 miles - 2.5 miles	Both	SR 21 north of Goshen Road is more heavily developed with commercial properties	 source: www.maps.live.com  source: www.maps.live.com  source: www.maps.live.com

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: SR 21, from Chatham County Line to 4th St in Rincon (#133, 134)

APPROXIMATE DISTANCE FROM COUNTY LINE	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
2.5 miles	Crosses Road	Schweighoffer Creek	
PROJECT 134 (FROM FORT HOWARD ROAD TO FOURTH STREET)			
General Note: Fort Howard Road is located approximately 3.4 miles from county line. The following information is related only to Project 134			
4.1 miles	Crosses Road	Dasher Creek	
4.2 miles	West	GA Power Substation	 m source: stock, from down road
4.3 miles	East	Community Center	 source: www.maps.live.com
4.7 miles	East	Rincon Elementary School	 source: www.effinghamschools.com

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: SR 119, from Laurel St in Springfield to SR 17 (# 215, 117, 78)

APPROXIMATE DISTANCE WEST FROM S LAUREL ST	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
PROJECT 117 (FROM LAUREL ST / SR 21 BUSINESS TO SR 21)			
0.1 miles	Crosses Road	At Grade Railroad Crossing	
0.3 miles	South	GA Power Substation	
0.4 miles	South	Effingham County Prison	 source: www.effga.com
PROJECT 78 (FROM SR 21 to SR 17)			
0.6 miles	South	Effingham Hospital	
0.9 miles	Crosses Road	Stream Crossing	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: SR 119, from Laurel St in Springfield to SR 17 (# 215, 117, 78)

APPROXIMATE DISTANCE WEST FROM S LAUREL ST	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
1.2 miles	North	County Office Annex and Health Department Offices	
1.3 miles	North	Library	 source: www.effga.com
1.4 miles	North	Effingham Memorial Gardens Cemetery	
1.4 miles	South	Open Water	
1.6 miles	North	Potential Historic Residence	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: SR 119, from Laurel St in Springfield to SR 17 (# 215, 117, 78)

APPROXIMATE DISTANCE WEST FROM S LAUREL ST	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
2.1 miles	North	Georgia Forestry Commission Fire Tower and Quonset Hut - Potential Historic Resources	
2.2 miles	North	Effingham County Middle School	
2.5 miles	North	Georgia Power Substation with onsite USTs	
2.5 miles	North	Gas Pipeline/Substation	 source: www.maps.live.com
2.7 miles	South	Effingham County High School	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: SR 119, from Laurel St in Springfield to SR 17 (# 215, 117, 78)

APPROXIMATE DISTANCE WEST FROM S LAUREL ST	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
3.4 miles	South	Faith Baptist Church	 source: www.maps.live.com
3.5 miles	South	Riggs Funeral Home	 source: www.maps.live.com
3.9 miles	South	Potential Historic Residence	
4.0 miles	South	Potential Historic Residence	 source: www.maps.live.com
4.2 miles	South	New Vision Pentecostal Church	 source: www.maps.live.com

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: SR 119, from Laurel St in Springfield to SR 17 (# 215, 117, 78)

APPROXIMATE DISTANCE WEST FROM S LAUREL ST	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
4.5 miles	North	Potential Historic Residence	
4.5 miles	South	Potential Historic Residence	
General Note:Within Guyton City Limits	Both	Both sides of road have residences that appear to be a historic district (Representative Photos Provided)	  

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: US 80 from SR 17 to Sandhill Road (#101)

APPROXIMATE DISTANCE FROM US 17	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
0.1 miles	North	Potential Historic Residence	
0.2 miles	South	International Worship Center	
0.5 miles	North	Potential Historic Residence	
1.5 miles	Crosses Roadway	Powerline easement	
2.7 miles	North	Large wetland (just north of Old River Road)	 source: www.maps.live.com

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: US 80 from SR 17 to Sandhill Road (#101)

APPROXIMATE DISTANCE FROM US 17	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
2.8 miles	South	Chevron with USTs	
3.1 miles	North	Open water	 source: www.maps.live.com
3.2 miles	NE quadrant of Magnolia Dr Intersection	Potential Historic Residence	
3.3 miles	SE qudrant of Foxbow Drive Intersection	Roadside Historic Marker - Sherman's Right Wing	
3.4 miles	North	Potential Historic Residence	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: US 80 from SR 17 to Sandhill Road (#101)

APPROXIMATE DISTANCE FROM US 17	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
3.4 miles	South	Powers Baptist Church	
3.5 miles	North	Potential Historic Residence	
3.9 miles	North	Wetland	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: OLD RIVER ROAD FROM JOHN CARTER RD. TO US 80 (#88)

APPROXIMATE DISTANCE FROM JOHN CARTER RD.	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
0.3 miles	East	Residential Open Water	
3.8 miles	West	Potential Historic Residence (just south of Schuman Drive)	
3.9 miles	West	Time Saver Mini Market (UST Sites)	
3.9 miles	East	Potential Historic Residence	
4.5 miles	Crosses Roadway	At grade Railroad Crossing	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: OLD RIVER ROAD FROM JOHN CARTER RD. TO US 80 (#88)

APPROXIMATE DISTANCE FROM JOHN CARTER RD.	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
4.6 miles	East	Entrance to Simpson Lumber Yard	
5.6 miles	Both	Open waters	
6.2 miles	West	Powers Baptist Cemetery	
6.3 miles	East	Chevron w/ UST	

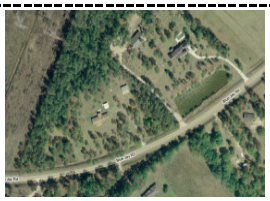
SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: Bluejay Road from SandHill Rd to SR 21 (#39, 123)

APPROXIMATE DISTANCE FROM SANDHILL RD	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
0.4 miles	North	Open Water/Wetland	
0.8 miles	North	Potential Historic Residence	
0.9 miles	North	Potential Historic Residence	
1.1 miles	Crosses road	Stream Crossing	 source: www.maps.live.com
1.6 miles	NW quadrant of Bluejay Rd and SR 17	New Gas Station (Under Construction) - UST site	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: Bluejay Road from SandHill Rd to SR 21 (#39, 123)

APPROXIMATE DISTANCE FROM SANDHILL RD	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
1.9 miles	North	Open Water/Residential Pond	
3.7 miles	Crosses road	Powerline Easement	
4.0 miles	North	Open Water/Residential Pond	 source: www.maps.live.com
4.7 miles	South	Open Water/Residential Pond	
5.0 miles	North	Open Water/Residential Pond	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: Bluejay Road from SandHill Rd to SR 21 (#39, 123)

APPROXIMATE DISTANCE FROM SANDHILL RD	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
5.6 miles	North	Open Water/Residential Pond	
6.2 miles	North	Open Water/Residential Pond	
6.7 miles	North	1886 Bluejay Road - Potential Historic Residence	
7.0 miles	North	1796 Bluejay Road - Potential Historic Residence	
8.1 miles	North	Open Water/Residential Pond	 source: www.maps.live.com

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: Bluejay Road from SandHill Rd to SR 21 (#39, 123)

APPROXIMATE DISTANCE FROM SANDHILL RD	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
8.3 miles	South	Gas pipeline (Atlanta Gas Light) Substation	
9.6 miles	Crosses road	At-Grade Railroad Crossing	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: Sandhill Road from US 80 to Bluejay Road (#91)

APPROXIMATE DISTANCE FROM US 80	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
PROJECT 91 (Note: This project continues north Stagefield Rd, further screening necessary if undertaken)			
0.1 miles	West (Intersection w/ Elm Street)	Potential Historic Residence	
1.0 miles	West	Potential Historic Residence	
1.4 miles	West	Potential Historic Residence - Farm with large oak in front yard	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: Fort Howard Road (#126) and Fort Howard Road Extension (#127)

APPROXIMATE DISTANCE FROM SR 21	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
PROJECT 126 (FROM SR 21 TO OLD AUGUSTA RD)			
0.9 miles	South	Open Water	
0.9 miles	North	Texaco Gas Station	
1.4 miles	North	Church (Latter Day Saints)	 source: www.maps.live.com
2.2 miles	North	Potential Historic Residence (Vacant)	
2.3 miles	North	Potential Historic Residence	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: Fort Howard Road (#126) and Fort Howard Road Extension (#127)

APPROXIMATE DISTANCE FROM SR 21	SIDE OF ROADWAY	FIELD OBESERVATION	PICTURES
2.3 miles	South	Potential Historic Residence	
PROJECT 127 (FORT HOWARD ROAD EXTENSION)			
0.1 miles	END OF COMMERCIAL DRIVE	Tractor Supply Company	
0.1 miles	SURROUNDING EXISTING COMMERCIAL	Potential Jurisdictional Waters	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: Meldrim - Jabez Jones Connector (#84)

FIELD OBESERVATION	PICTURES
Proposed Eastern Terminus (Jabez Jones Road) is wooded. In close proximity to Powerline Easement. Project would cross this easement. (See Photo)	
Proposed Eastern Terminus (Jabez Jones Road) is in close proximity to Mary Kahrs Warnell Forestry Education Center. (See Photo)	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: Carolina Ave Extension (#124)

FIELD OBESERVATION	PICTURES
17th Street Terminus is adjacent to Fire Station	 source: www.maps.live.com
Large ditch runs along corridor and parrallel to Railroad corridor. Potential Jurisdictional Water of US.	
Parcels along corridor (south of railroad corridor) are cleared for construction.	
Large retention pond located behind Lowes hardware.	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: Richland Avenue Extension (#130)

FIELD OBESERVATION	PICTURES
Weisenbaker Road (Potential Commercial Relocations) - Two Restaurants and Dentist Office. Behind City Hall Offices.	
Crosses Dasher Creek	 source: www.maps.live.com
East 10th Street - Residence (Potential Relocation)	

SUMMARY OF ENVIRONMENTAL SCREENING AND FIELD OBSERVATIONS

DESCRIPTION: Mock Road Extension (#55)

FIELD OBESERVATION	PICTURES
At Stillwell Road: Residence in NE quadrant of intersection (road would go east of house) Photo (Right) is of house and entrance. SE Quadrant is residential. SW Quadrant is cattle and farmland.	
SR 21 Terminus difficult to determine. Appears to be at open field and planted pine.	 source: www.maps.live.com

APPENDIX E. List of All Recommended Transportation Improvements

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Cost	Score	Road	Bike	Ped	General
1	Boaen Road	Springfield-Egypt Road to Sawmill Road	NW	This road is the end of the potential northeastern extension of Effingham Pkwy. Paving this road will provide better connectivity from Effingham Parkway-related projects to SR 21. Improve in tandem with #2.	Paving			2.19	$1,336,646	38	33	0	0	5
2	Boaen Road Extension	Springfield-Egypt Road to SR 21	NW	This road segment provides a short connector from the existing Boaen Road to SR 21, continuing from the intersection of Boaen Road and Springfield-Egypt Road. It forms the final segment of a potential Northeastern extension of Effingham Parkway, providing a convenient terminus at SR 21.	New Two-Lane Road			0.42	$1,233,332	28	23	0	0	5
3	Effingham Parkway - Northeastern	119 to Boaen Road@Sawmill Road	NW	First segment of potential Northeastern extension of Effingham Parkway. Though currently considered a "county project" due to relatively low traffic volumes projected by the study's travel demand model, completing this segment will allow Effingham Parkway traffic to channel back to SR 21 north of Springfield (via additional projects #1 and #2), rather than completely loading on to SR 119. Undertaking project #13 in addition to this one will enable vehicle movement to SR 17 north of Guyton, rather than directing offloading traffic through the center of Guyton.	New Two-Lane Road			3.00	$8,894,188	43	33	0	0	10
4	Griffin Lake Road Extension	SR 17 to Springfield-Egypt Road	NW	Extending Griffin Lake Road to Springfield-Egypt/Shawnee-Egypt Road will improve high-level connectivity in the Northern part of the county, aiding in emergency vehicle movement. E-W connectors between SR 17 and SR 21 north of Guyton were specifically requested by public safety officials. This segment can form a part of a near continuous improved route from Old Louisville Road to Clyo-Kildare Road (in combination with projects #31 and #22).	New Two-Lane Road			2.20	$6,512,025	28	23	0	0	5
5	Morgan Road	SR 21 to Springfield-Egypt Road	NW	Paving Morgan Road between SR 21 and Springfield-Egypt Road will improve high-level connectivity in the Northern part of the county, aiding in emergency vehicle movement. E-W connectors between SR 17 and SR 21 north of Guyton were specifically requested by public safety officials. This improvement would be most effective in combination with Projects #14, #6, and #28.	Paving			1.64	$1,000,900	38	33	0	0	5
6	Morgan Road Extension	Springfield-Egypt Road to SR 17	NW	Extending Morgan Road between Springfield-Egypt Road and SR 17 will improve high-level connectivity in the Northern part of the county, aiding in emergency vehicle movement. E-W connectors between SR 17 and SR 21 north of Guyton were specifically requested by public safety officials. This improvement would be most effective in combination with Projects #5 and #14, and is already recorded in the Effingham Capital Improvement Plan.	New Two-Lane Road	Rural Route – Signage Only		2.74	$8,107,776	42	23	9	0	10
7	Old Tusculum Road, Segment 2	SR 21 to Standard Lane	NW	Adding sidewalks to this road will enable children to safely walk to local schools, and allow general pedestrian access to destinations along SR 21 and in downtown Springfield. This improvement would be most effective in combination with projects #72, #121, and #118.			Sidewalks - Both Sides	0.33	$286,946	33	0	0	23	10
8	Porter Road	Old Louisville Road to Riverside Drive	NW	Constructing this roadway extension will aid in better access to existing or potential river-based recreation activities and emergency vehicle movement.	New Two-Lane Road			2.12	$6,269,268	28	23	0	0	5
9	Powell Road Extension	4th Avenue to SR 119 (intersect w/ Little McCall Realignment)	NW	Constructing this road will allow local vehicular and pedestrian access to the residential areas of Guyton without forcing vehicular traffic through the busy SR 119 / SR 17 intersection in downtown Guyton. Would be most effective in combination with project # 78 (realignment of Little McCall Road intersection with SR 119).	New Two-Lane Road		Sidewalks - One Side	0.54	$1,726,301	61	33	0	23	5

APPENDIX E. List of All Recommended Transportation Improvements, Continued

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Estimated Cost	Score	Road	Bike	Ped	General
10	Sawmill Drive	Springfield-Tusculum Road to Boaen Road	NW	Paving this short segment will increase the connectivity of area roadways if done in combination with projects #3, #13, and #1.	Paving			0.22	$131,880	38	33	0	0	5
11	Long Bridge Road	Ebenezer Road to Wylly Road	SE	Adding bike lanes to this road will connect existing county bike lanes to Old Augusta Road and Fort Howard Road (with implementation of #131 and #46), in addition to providing eventual access to SR 21 business and Downtown Rincon. It is a key segment of an integrated bicycle network, providing safe, direct transportation and recreation opportunities.		Marked Bicycle Lanes		0.10	$105,000	33	0	21	0	13
12	Shearwood Road	Old Louisville Road to Ogeechee River	NW	This project is in the Capital Improvement Plan, and also provides access to potential outdoor recreation area & boat launch.	New Two-Lane Road			0.78	$2,294,196	28	23	0	0	5
13	Springfield-Tusculum Road	SR 17 to Brogdon Road	NW	The Capital Improvement Plan calls for paving this segment of Springfield-Tusculum Road. Paving a relatively heavily-traveled dirt road will decrease maintenence expenses. Improved roadway connectivity in this area will aid in local and emergency vehicle movement.	Paving			3.86	$2,357,526	28	23	0	0	5
14	Springfield-Egypt Road	Shawnee-Egypt Road to SR 21	NW	Springfield-Egypt Road is a heavily used unpaved road. Paving it will improve mobility, safety, and maintenance expenditures.	Paving			6.38	$3,892,109	38	33	0	0	5
15	SR 17, Segment 4	Old Elam Cemetary Road to 1300 ft S of Egypt Ardmore Road	NW	SR 17 is the main street in the Egypt community, and adding a short sidewalk will help local residents safely access commercial destinations in the area. Eventually add pedestrian crosswalk and/or signal at Egypt-Ardmore Road to aid in local multimodal mobility. Locate the sidewalk on the northeast side of road.			Sidewalks - One Side	0.42	$182,430	43	10	0	23	6
16	SR 21, Segment 5	Old Tusculum to Springfield-Egypt Road	NW	Adding a sidewalk provides opportunity for area residents to access the highway and community facilities in Springfield. Implement in combination with projects # 72, #118, #117, and #115.			Sidewalks - One Side	2.46	$1,069,090	44	10	0	23	11
17	4th Street	Marion Avenue to Stillwell-Clyo Road	NE	4th Street is a primary street in Clyo. Adding a sidewalk to it will provide a continuous connection between future pedestrian facilities on Marion Avenue and Stillwell-Clyo Road. Locate sidewalk on south side of 4th Street, and build in combination with project #36.			Sidewalks - One Side	0.22	$96,885	32	0	0	23	5
18	Angus Exley Road Extension	End of Angus Exley Road to Bark Dr	NE	Extending Angus Exley Road to Bark Drive will cost-effectively aid in regional connectivity by utilizing existing roadways (coordinate with projects #19 and #20). Other potential connections in vicinity between SR 119 and Sister's Ferry Road can be undertaken if this extension is not feasible.	New Two-Lane Road			0.88	$2,595,253	28	23	0	0	5
19	Angus Exley Road	Sister's Ferry Rd to End	NE	Pave in coordination with extending this road to Bark Road to aid in regional macro-connectivity. Other connections in vicinity b/w SR 119 and Sister's Ferry Road can be undertaken if extension is not feasible. Coordinate w # 18 and #20	Paving			0.78	$475,922	28	23	0	0	5
20	Bark Drive	SR 119 to end	NE	Pave in coordination with extending this road to Angus-Exley to aid in regional macro-connectivity. Other connections in vicinity b/w SR 119 and Sister's Ferry Road can be undertaken if extension is not feasible. Coordinate w # 18 and #19	Paving			0.35	$211,508	38	33	0	0	5
21	Clyo-Kildare Road	SR 119 to Marion Avenue	NE	Local pedestrian connectivity, access to SR 119. Most effective in combination with projects #27, #34, and #17			Sidewalks - One Side	0.09	$39,310	42	10	0	23	5
22	Corinth Church Road	Clyo-Kildare Road to Bird Road	NE	This segment is part of a continuous E-W route in the northern part of the county. Improving the road will enhance local connectivity and emergency vehicle access. Would be most effective if improved at the same time as project #31.	Paving			4.63	$2,822,977	38	33	0	0	5
23	Fair Street	Clyo-Stillwell Road to community center	NE	Adding a sidewalk to this road will provides opportunity for area residents to access Clyo community center safely, and helps to address environmental justice issues in this low-income part of the county.			Sidewalks - One Side	0.32	$140,384	32	0	0	23	5
24	Indigo Road	Mock Road to Stillwell-Clyo Road	NE	Paving this road will address maintenance issues and railroad crossing safety. A paved road would also accommodate a rural bike route (marked with signage only). Current Capital Improvement Plan project.	Paving	Rural Route – Signage Only		2.52	$1,534,700	47	33	9	0	5

APPENDIX E. List of All Recommended Transportation Improvements, Continued

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Estimated Cost	Score	Road	Bike	Ped	General
25	Josiah Morgan - Sam Smart Connector	Connect Josiah Morgan Road to Sam Smart Road (at ends)	NE	Building a new road between Josiah Morgan Road and Sam Smart Road will cost-effectively aid in regional connectivity by utilizing existing roadways (coordinate with projects #26 and #29). It is an important local N-S link between SR 21 and SR 119 in northeastern Effingham County.	New Two-Lane Road			1.33	$3,946,049	28	23	0	0	5
26	Josiah Morgan Road	Clyo-Shawnee Road to JM/SS Connector (new)	NE	Paving this road (and also constructing project #25) will aid in emergency vehicle access, connectivity, and decreased maintenance needs.	Paving			0.99	$603,507	28	23	0	0	5
27	Marion Avenue	SR 119 to Clyo-Kildare Road	NE	A sidewalk is recommended for the eastern side of the street to aid in pedestrian safety and connectivity to SR 119. Several fatal vehicular incidents occurred in vicinity, and adding a sidewalk may reduce the chance of pedestrian involvement or give a vehicle an additional correction buffer.			Sidewalks - One Side	0.69	$301,809	42	10	0	23	5
28	Lorenzo Hurst / Elbert Arnsdorff	SR 21 to Old Dixie Highway	NE	This road forms is a segment of a direct E-W corridor north of 119, connecting Clyo to other northern communities and SR 21. Northern Effingham is lacking in paved roads, and this one should be a priority based on its usage and role in providing direct connections between places. Paving also decreased maintenance needs.	Paving			2.29	$1,399,069	28	23	0	0	5
29	Sam Smart Road	Corinth Church Road to end	NE	Paving this road (and also constructing project #25) will aid in emergency vehicle access, connectivity, and decreased maintenance needs.	Paving			1.32	$802,749	38	33	0	0	5
30	Shawnee Road, Segment 1	SR 21 to Old Dixie Highway	NE	Paving this street provides opportunity for area residents to access SR 21 and community facilities in Shawnee. Also provides pedestrian safety if #31 built as the road may experience slight increase in traffic.			Sidewalks - One Side	1.05	$455,303	32	0	0	23	5
31	Shawnee Road, Segment 2	Old Dixie to Corinth Church Road	NE	This segment is part of a continuous E-W route in the northern part of the county. Improving the road will enhance local connectivity and emergency vehicle access. Would be most effective if improved at the same time as project #22.	New Two-Lane Road			1.12	$3,301,933	28	23	0	0	5
32	Sisters Ferry Road	SR 119 to Green Morgan School Road	NE	Sister's Ferry is a relatively well-travelled dirt road that provides direct access to Clyo via non-highway means. It forms part of an identified E-W corridor between SR 119 and SR 17 (including other projects #28, # 5, and #6), potentially reducing some local traffic along SR 119 between Springfield and Guyton.	Paving			2.37	$1,448,536	28	23	0	0	5
33	SR 119, Segment 4	SR 21 realign (Springfield) to SC State Line	NE	This winding segment of SR 119 lacks a shoulder and has experienced several fatal crashes. Adding an improved shoulder (to standards of other State Route segments in the County) will help with safety in the area. Additionally adding roadside reflectors will reduce incidents based on failure to navigate turns at night.	Shoulder Increase	Wide Shoulder		11.65	$8,853,386	59	30	16	0	14
34	SR 119, Segment 5	Marion Avenue to Clyo-Kildare Road	NE	Adding a sidewalk to the east side of SR 119 will increase pedestrian safety and access to future businesses on SR 21 in vicinity of Clyo.			Sidewalks - One Side	0.68	$294,954	33	0	0	23	6
35	SR 21, Segment 6	Shawnee Egypt Road to 500 ft N of Shawnee Road	NE	Providing a short sidewalk will enhance pedestrian access to commercial development and potential transit stops for local residents. Sidewalk is recommended on northeast side of SR 21. This project is located in an environmental justice area where people are more likely to visit destinations through some means other than driving themselves.			Sidewalks - One Side	0.32	$139,426	33	0	0	23	6
36	Stillwell-Clyo Road	4th Street to Fair Street	NE	Stillwell-Clyo Road is a local direct travel route with fast -moving vehicles. Adding a sidewalk on the west side of this street will help Clyo residents safely access the community center on Fair Street.			Sidewalks - One Side	0.58	$252,565	32	0	0	23	5
37	4th Street / Rincon-Stillwell Road	Bunyan Kessler Road to Long Pond Road	SE	This is a key segment of an integrated bicycle network and would be most effective built in conjunction with projects #122 and #51.		Wide Shoulder		0.24	$179,804	23	0	16	0	8
38	Azalea - Commercial Connector	end of Azalea Avenue to Goshen Commercial Park Dr	SE	This parallel new road would provide a local alternative to SR 21 so that area businesses could be accessed from a low-speed rear access road rather than a high-speed high-volume arterial. It provides a terminus to a McCall Road eastern extension (#54) and increases area connectivity.	New Two-Lane Road			0.26	$771,884	28	23	0	0	5

APPENDIX E. List of All Recommended Transportation Improvements, Continued

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Estimated Cost	Score	Road	Bike	Ped	General
39	Blue Jay Road	McCall Road to SandHill Road	SE	This road is a primary E-W connector and should up upgraded to have better functionality. It can be initially widened by providing a center turning lane or otherwise adding occasional left and right turn bays in necessary places. Long-term, a four-lane road may be called for but is not currently justified by travel demand model volume projections. Blue Jay Road should also have bike lanes as it is a critical direct E-W bike link south of 119. In Capital Improvement Plan.	Widen (2-->3 Lanes)	Multi-Use Path	Multi-Use Path	9.36	$24,337,341	80	20	26	23	11
40	Bunyan Kessler Road	Rincon-Stillwell Road to Fort Howard Road	SE	Adding a shoulder to Bunyon Kessler Road will help bicyclists travel north and south just outside of Rincon. It is a key segment of an integrated bicycle network and increases safety and connectivity.		Wide Shoulder		0.91	$694,958	31	10	16	0	5
41	Chimney Road	SR 21 to Old Augusta Road	SE	Chimney Road has many residences located along it and is the first E-W connector between SR 21 and Old Augusta Road when entering Effingham County from the south. It is a critical link for adding bicycle facilities, which will enable children to get to school and parks more easily as well as generally increasing non-vehicular access to commercial destinations along SR 21.		Wide Shoulder		2.13	$1,616,248	31	10	16	0	5
42	Chimney - Busch Connector	Busch Road to SR 21	SE	Creating an official road in place of the existing parking lot will allow area residents to access the current traffic signal at Chimney Road and SR 21, reducing reliance on McCall Road until the intersection there can be upgraded.	New Two-Lane Road			0.07	$192,930	38	33	0	0	5
43	Ebenezer Road	SR 21 to Waldhour Road (by powerlines)	SE	New sidewalks along Ebenezer Road are critical in safely connecting nearby residential areas to a county middle school and elementary school.			Sidewalks - Both Sides	3.28	$2,850,329	48	10	0	23	11
44	Effingham Parkway, Segment 2	Blue Jay Road to SR 119	SE	Building a primary N-S roadway in the south central part of Effingham County would support high-impact economic development opportunities, serve as a truck bypass (to SR 21), and greatly increase regional connectivity. Effingham Parkway is listed in both the STIP and Capital Improvement Plan.	New Two-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	7.85	$30,615,000	101	33	26	23	20
45	Effingham Parkway (Chatham)	Chatham County Line to vicinity of Monteith Road (Chatham)	SE	This segment of Effingham Parkway (project #44) is located in Chatham County and is a necessary link in connecting the potential parkway to a southern terminus that can handle a high potential volume of vehicles.	New Four-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	1.76	$0, Located in Chatham County	89	25	26	23	15
46	Fort Howard Road, Segment 1	Old Augusta Road to Rincon-Stillwell Road	SE	Putting bicycle facilities along Fort Howard Road will connect large residential subdivisions to the City of Rincon, SR 21, area schools, and existing county bike lanes. It is a key segment of an integrated bicycle network.		Wide Shoulder		2.30	$1,747,880	37	10	16	0	11
47	Research Forest E-W connector	McCall Road to Hodgeville Road (in DRI)	SE	If Research Forest Industrial Park is developed, E-W connectivity between McCall Road and SR 21 (and optimally Hodgeville Road) is needed. Coordinate planning and construction of this road with the Research Forest Site Plan and eventually Effingham Pkwy. Construct as "Complete Street" with pedestrian and bike facilities.	New Two-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	2.65	$0, within Research Forest development	96	33	26	23	15
48	Goshen Road	SR 21 to Effingham Parkway	SE	Many residences are located in the vicinity of Goshen Road, which is part of the southernmost continuous E-W route in Effingham County. A bike lane is necessary to safely connect area residents to destinations along SR 21. Road improvements along Goshen Road are in the Capital Improvement Plan.		Marked Bicycle Lanes	Sidewalks - Both Sides	2.82	$2,965,412	72	10	26	23	14
49	Goshen/Hodgeville/Kolick Helmey Roads	Effingham Parkway to SR 30	SE	Many residences are located in the vicinity of this corridor, which is the southernmost continuous E-W route in Effingham County. Sidewalks are necessary to safely connect area residents to a number of schools as well as destinations along SR 21. Adding sidewalks to this corridor is a critical link in the pedestrian network.			Sidewalks - Both Sides	3.75	$3,262,500	49	10	0	23	16
50	Long Bridge Road	Ebenezer Road to 4000 ft N of Wylly Road	SE	Adding a sidewalk here would provide a pedestrian connection to a recreation area, as well as providing a facility on which children could walk to Ebenezer Middle and Elementary Schools.			Sidewalks - One Side	1.60	$696,535	33	0	0	23	10

APPENDIX E. List of All Recommended Transportation Improvements, Continued

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Estimated Cost	Score	Road	Bike	Ped	General
51	Long Pond Road	Ft Howard Road to Rincon Stillwell Road	SE	In tandem with projects #122, #46, and #11, bicycle facilities along this roadway segment allow Rincon residents to access schools, recreation areas, and existing/proposed bike lanes.		Wide Shoulder		0.97	$734,282	33	10	16	0	8
52	Low Ground - Blue Jay Connector	end of Hodgeville Road (realign to be perpendicular to Blue Jay) to just E of Sagepoint Road	SE	This segment extends Hodgeville Road northwards and aids in macro-connectivity. A smaller project than the parallel Effingham Parkway, it can have more immediate benefit by being part of a direct route between Guyton and southern Effingham County/ Coordinate with projects #69, #66, #71, #63.	New Two-Lane Road			1.73	$5,111,750	28	23	0	0	5
53	McCall Road	SR 21 to Blue Jay Road (Blanford Rd)	SE	McCall Road is a fairly high traffic volume road with a number of residences, schools, and nearby recreational and commercial destinations. Bicycle and pedestrian facilities are needed to safely connect neighborhoods to elementary school and park. McCall road has higher vehicular crash rate than other roads of identical functional class and the addition of wide shoulders and sidewalks can potentially help to make the road safer via mode substitution for short and mid-length trips.		Wide Shoulder	Sidewalks - Both Sides	3.38	$5,506,551	64	10	21	23	10
54	McCall Road Extension	SR 21 to Azalea-Commercial Connector (New)	SE	Extending McCall road across SR 21 will enhance local connectivity and decrease reliance on SR 21. Having a signalized four-way intersection here can mitigate turning-related safety issues at intersection of McCall Road and SR 21. The junction of McCall Road and SR 21 was specifically mentioned by public safety officials in relation to school bus movement.	New Two-Lane Road			0.18	$529,041	28	23	0	0	5
55	Mock Road Extension	SR 21 to Stillwell Road (Springfield)	SE	Constructing this roadway segment aids in regional connectivity, allowing local through-travelers to access 119 E from 21 N (or vice versa) without going through Springfield. If desired, add truck route restrictions to this project and enforce usage of SR 21 and SR 119 for area freight movement.	New Two-Lane Road			1.17	$3,456,430	28	23	0	0	5
56	Old Augusta Road	SR 21 to Ft Howard Road	SE	Paving this road will increased connectivity and reduced maintenance costs. It is also recommended to use Old Augusta Road as a scenic bicycle route. Construction has already begun on southern end. In Capital Improvement Plan.		Wide Shoulder		4.87	$3,704,837	43	10	16	0	18
57	Stephens Drive	Goshen Road to McCall Road	SE	A sidewalk is needed to provide a pedestrian connection between Goshen Road and McCall Road without having to utilize SR 21. This road helps areas residents to access a nearby park and elementary school.			Sidewalks - One Side	0.58	$253,069	38	10	0	23	5
58	Vale Royal Drive	McCall Road to Westwood Drive	SE	This is a central road within a compact existing neighborhood. In combination with project #59, sidewalks along this street segment will help area residents safely access SR 21 commercial and employment opportunities, recreational areas, and a nearby school.			Sidewalks - Both Sides	0.29	$251,860	33	0	0	23	10
59	Westwood Drive	Vale Royal Dr to SR 21	SE	This is a central road within a compact existing neighborhood. In combination with project #58, sidewalks along this street segment will help area residents safely access SR 21 commercial and employment opportunities, recreational areas, and a nearby school.			Sidewalks - Both Sides	0.46	$396,545	38	10	0	23	5
60	Wylly /High Bluff/ Tommy Long Road	Long Bridge Road to End	SE	A sidewalk on this road allows nearby residents to safely access both schools and recreational opportunities in the area without a vehicle.			Sidewalks - One Side	2.34	$1,015,769	47	10	0	23	10
61	Zipperer - Hodgeville Connector	Zipperer Paddock (end) to Hodgeville Road	SE	This project is a general recommendation of primary E-W connectivity for IDA Research Forest so that it meshes better with surrounding areas and transportation network. The final alignment should be coordinated with Research Forest and project #47.	New Two-Lane Road			1.03	$3,048,800	28	23	0	0	5
62	Zipperer Road	Midland Road to end	SE	Paving this road will provide better area connectivity, particularly as vehicular volume marginally increases due to construction of project #61. Zipperer Road (and project #61) form a minor but direct E-W route in the growing southern part of Effingham County.	Paving			1.10	$673,416	28	23	0	0	5

APPENDIX E. List of All Recommended Transportation Improvements, Continued

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Estimated Cost	Score	Road	Bike	Ped	General
63	Big T Road	Courthouse Road to Shirley Road	Central	Paving this road in combination with improvement projects #69, #66, #71, #52 will aid in macro-connectivity, and local and emergency vehicle movement. There are a number of more recent developments in the area that would benefit from being able to travel on roadways besides Midland Road and McCall Road which have relatively high crash rates in some locations.	Paving			0.85	$520,214	28	23	0	0	5
64	Courthouse Road	SR 21 to SR 17	Central	Many neighborhoods are located along Courthouse Road and sidewalks would more safely connect residents to Springfield and parks. Currently, vehicles travel along this road in numbers and at speeds that make it unsafe for pedestrians to share the road with them.		Rural Route – Signage Only	Sidewalks - Both Sides	8.35	$7,267,451	52	10	14	23	5
65	Effingham Parkway, Segment 1	County Line to Blue Jay Road	SE	Building a major N-S roadway in the south central part of Effingham County would support high-impact economic development opportunities, serve as a truck bypass (to SR 21), and greatly increase regional connectivity. Effingham Parkway is listed in both the STIP and Capital Improvement Plan.	New Four-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	5.11	$34,385,000	89	25	26	23	15
66	Existing private road Off Low Ground Road	Low Ground Road to LowGround-Shirley Connector (new)	Central	Paving this road in combination with improvement projects #69, #63, #71, #52 will aid in macro-connectivity, and local and emergency vehicle movement. There are a number of more recent developments in the area that would benefit from being able to travel on roadways besides Midland Road and McCall Road which have relatively high crash rates in some locations.	Paving			1.25	$765,257	28	23	0	0	5
67	HS Access (to Deerfield Road)	Pleasant Acre Road (straightened) to SR 119 between HS and MS	Central	This roadway connection allows Effingham Middle and High Schools to be accessed from the rear, thus reducing pressure on SR 119.	New Two-Lane Road			0.71	$2,087,548	33	23	0	0	10
68	Little McCall Road north terminus realign	north end of road to SR 119	Central	Realign Little McCall Road at SR 119 to help mitigate intersection-related safety issues. Continue north to Powell St and provide access to Guyton residential area. Aids in local connectivity.	New Two-Lane Road			0.30	$883,148	28	23	0	0	5
69	Low Ground - Shirley Connector	Shirley Road to end of #66	Central	Constructing this road in combination with improvement projects #66, #63, #71, #52 will aid in macro-connectivity, and local and emergency vehicle movement. There are a number of more recent developments in the area that would benefit from being able to travel on roadways besides Midland Road and McCall Road which have relatively high crash rates in some locations.	New Two-Lane Road			1.25	$3,713,380	28	23	0	0	5
70	Low Ground Road	McCall Road to Midland Road	Central	Low Ground Road provides direct access to various community facilities and employment opportunities. Paving it will increase mobility in this central area of Effingham while reducing maintenance needs. In Capital Improvement Plan.	Paving			5.07	$3,092,100	38	33	0	0	5
71	Magnolia - Big T Connector	Magnolia Street Ext to Courthouse Road (E of Indica Pl)	Central	A new roadway segment in this location will aid connectivity by creating another access point to and from the City of Guyton that does not depend on SR 119. It will be especially beneficial for residences along Courthouse Road.	New Two-Lane Road			3.42	$10,131,722	28	23	0	0	5
72	Old Tusculum Road, Segment 1	SR 21 to SR 119 realign (GDOT)	Central	Adding sidewalks to this road will enable children to safely walk to local schools, and allow general pedestrian access to destinations along SR 21 and in downtown Springfield. This improvement would be most effective in combination with projects #7, #121, and #118.			Sidewalks - Both Sides	0.18	$152,701	33	0	0	23	10
73	Pleasant Acres Road	SR 21 to Little McCall Road (or powerline easement)	Central	Pleasant Acres Road provides a parallel route to 119, allowing rear access to the nearby high school and middle school. It should be straightened out where necessary in addition to paving to make travel along it safer. If built in conjunction with #67 and #75, there is no great need to pave the roadway segment between a potential extension to Pineora and Little McCall Road.	Paving			3.70	$2,254,683	48	33	0	0	15

APPENDIX E. List of All Recommended Transportation Improvements, Continued

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Estimated Cost	Score	Road	Bike	Ped	General
74	Pound Road / Floyd Road	Entire length of both roads (to SR 17)	Central	Paving this road, if done in conjunction with project #75, would aid in local connectivity by providing a way for areas residents to go between Springfield and Pineora without traveling through the center of Guyton or adding traffic along SR 119.	Paving			1.88	$1,148,891	38	33	0	0	5
75	Pound Road - Pleasant Acres Connector	End of Pound Road to Pleasant Acres Road in vicinity of powerline easement	Central	Building a new road in this location would aid local and regional connectivity, reducing reliance on primary city roads for local traffic.	New Two-Lane Road			3.39	$10,029,273	33	23	0	0	10
76	Multi-Use Path along power line easement	Courthouse Road to SR 119	Central	This multi-use path project provides a scenic non-vehicular connection between a large residential area and nearby middle and high schools via a power line easement. The segment of SR 119 adjacent to the two schools has a spike in vehicular incidents at times corresponding to the start and end of the school day. Providing more non-automobile options to get to school will improve the safety of students, their parents, and other drivers utilizing SR 119 between Springfield and Guyton.		Multi-Use Path	Multi-Use Path	2.76	$2,755,187	69	10	26	23	10
77	Rahn Station Road	SR 21 to McCall Road at Effingham Parkway	Central	Rahn Station Road is one of four recommended E-W bike routes in the southern half of the county. A facility on this road will connect existing lanes along Ebenezer Road to new lanes along Effingham Parkway, providing a decent level of large-scale bicycle network connectivity in the area.		Wide Shoulder		3.60	$2,732,228	31	10	16	0	5
78	SR 119, Segment 2	SR 17 to SR 21	Central	A center turning lane along with right turn bays along this length of road as well as bike/pedestrian accommodation (multi-use path) is recommended to improve traffic operations and provide greater accessiblity through mode choice. 2030 travel demand model runs do not show excessive congestion to warrant additional through-lanes by 2030. If local input still shows desire for eventual 4-lane road, however, a multi-use path must be placed far enough from road to preserve adequate future ROW. A multi-use path, rather than bike lanes and sidewalks, is recommended due to the probable use of the facility by schoolchildren. Widening recommendations are in the Capital Improvement Plan.	Widen (2-->3 Lanes)	Multi-Use Path	Multi-Use Path	5.02	$13,045,946	92	30	26	23	14
79	SR 17, Segment 3	Midland Road to Pound Road	Central	This sidewalk connects recommended sidewalk facilities along Midland Road to the multi-use path corridor (#89) in Pineora via SR 17. It is part of an integrated pedestrian network.			Sidewalks - One Side	0.66	$288,048	33	0	0	23	6
80	Courthouse Road	SR 17 to Stagecoach Avenue	SW	Extending Courthouse Road to the Stagecoach Avenue off of Sand Hill Road will provide greater regional connectivity, allowing better citizen access to a major recreation center.	New Two-Lane Road		Sidewalks - Both Sides	2.34	$8,073,151	56	23	0	23	10
81	Heidt Landing Road	Central Avenue to existing rd connecting to SR 119	SW	Paving Heidt Landing Road will improve access to the river and decrease maintenance. If project #99 is completed concurrently, regional connectivity will improve and divert some vehicular traffic from Honey Ridge Road to this route which has fewer nearby residences.	Paving	Rural Route – Signage Only		2.11	$1,287,100	47	33	9	0	5
82	Honey Ridge Road	SR 17 to SR 119	SW	Sidewalks are necessary along Honey Ridge Road to safely access the recreation area and better separate pedestrians (including neighborhood children) from adjacent truck movement as this road is currently used as a shortcut from SR 17 to SR 119 to avoid their intersection in Guyton.			Sidewalks - Both Sides	2.25	$1,960,266	52	10	0	23	15
83	Jabez Jones Road	SR 17 to SR 30	SW	Adding pedestrian and bicycle facilities will help neighborhood kids get to the middle school and high school without having to navigate local highways by car. This is a safety improvement as well as an integral part of the overall bicycle and pedestrian network.		Marked Bicycle Lanes	Sidewalks - Both Sides	1.04	$2,735,164	69	10	26	23	10

APPENDIX E. List of All Recommended Transportation Improvements, Continued

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Estimated Cost	Score	Road	Bike	Ped	General
84	Meldrim - Jabez Jones Connector	US 80 to Jabez Jones Road	SW	Constructing a facility to connect Meldrim Road and Jabez Jones Road will greatly aid in regional connectivity and increased safety for area residents (especially in Meldrim). It will improve access to highways and schools, and reduce volumes at the intersections of SR 17 with US 80 and SR 30. Construct as a "Complete Street" with sidewalks and bike lanes in addition to automobile travel lanes. It may be necessary to signalize the intersection of US 80 with this project, based on traffic volume.	New Two-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	1.70	$5,857,171	81	23	26	23	10
85	Meldrim Road	Central Avenue (Meldrim) to US 80	SW	This project provides greater opportunity for Meldrim residents to access the highway and community facilities by bike.		Wide Shoulder		1.28	$975,904	31	10	16	0	5
86	Midland Road	SR 30 to Rails-to-Trails	SW	Adding a pedestrian facilities along Midland Road will help people to access to future commercial nodes as well as subdivisions, schools, and recreational areas. It is an important piece of a large-scale pedestrian network that will be necessary as the county expands. Minimally, right-of-way should be preserved and sidewalks could be implemented on one side at a time, beginning with the northernmost section accommodating existing neighborhoods between Courthouse Road and SR 17.			Sidewalks - Both Sides	8.38	$7,288,785	42	10	0	23	5
87	Nease Road	SR 30 to St. Matthew's Road	SW	This sidewalk will allow neighborhood children to safely walk down a neighborhood through-street to access the nearby high school and middle school.			Sidewalks - One Side	0.55	$240,296	43	10	0	23	10
88	Old River Road	US 80 to John Carter Road	SW	Operational improvements and widening are needed along Old River Road, which connects to the only Interstate exit in Effingham County. Directional signage pointing from US 80 to Old River Road is also necessary.	Widen (2-->4 Lanes)			4.09	$19,632,000	46	30	0	0	16
89	Rails-to-Trails	Downtown Guyton to Meldrim @ 2nd Street	SW	Prime opportunity for recreational and mobility-oriented multi-use path. Using old railbeds as low-impact trails is a method to preserve railroad right-of-way in event of future passenger train service to area.		Multi-Use Path	Multi-Use Path	13.62	$8,170,616	83	10	26	23	20
90	S Effingham High School woodland path	Richmond Drive to back of HS (between baseball and football field)	SW	Adding a path through the woods would connect neighborhoods to middle and high school without forcing teenagers to drive on state highways, thus improving roadway safety. Consider pursuing this as a local project, potentially utilizing a boardwalk to traverse any area wetlands.		Multi-Use Path	Multi-Use Path	0.35	$351,838	59	0	26	23	10
91	Sand Hill Road, Segment 1	US 80 to Stagefield Road	SW	Adding turn lanes will improve mobility and safe vehicular access to neighborhoods. Pedestrian and bicycle facilities will help residents access schools and recreational areas, as well as potential commuter bus stops along US 80 and SR17. Segment in Capital Improvement Plan.	Widen (+ turn lane)	Marked Bicycle Lanes	Sidewalks - Both Sides	3.11	$8,167,631	86	20	26	23	14
92	Sand Hill Road, Segment 2	Stagefield Road to Boggy Road	SW	Adding turn lanes will improve mobility and safe vehicular access to neighborhoods. Pedestrian and bicycle facilities will help residents access schools and recreational areas, as well as potential commuter bus stops along US 80 and SR17.	Widen (+ turn lane)	Marked Bicycle Lanes	Sidewalks - Both Sides	1.31	$3,448,476	82	20	26	23	14
93	Sand Hill Road, Segment 3	Boggy Road to railbed	SW	Adding turn lanes will improve mobility and safe vehicular access to neighborhoods. Pedestrian and bicycle facilities will help residents access schools and recreational areas, as well as potential commuter bus stops along US 80 and SR17.		Wide Shoulder		1.70	$1,293,239	24	0	16	0	9
94	SR 119, Segment 1	SR 17 to Bulloch County Line	SW	Adding an improved shoulder (to standards of other State Route segments in the County) will help with safety in the area. It will also allow recreational bicyclists to travel more easily between proposed multi-use paths and a bike route located in Bulloch County (119/Stilson Road) which eventually leads to Statesboro. A river recreation area is accessed from SR 119 at the county line.	Shoulder Increase	Wide Shoulder		4.23	$3,211,445	57	30	16	0	11
95	SR 17, Segment 1	US 80 to Blue Jay Road	SW	Bike/pededestrian facilities are needed in the vicinity of schools and future activity centers. SR 17 is a current state bike route, but is not safe due to the lack of dedicated facilities providing a buffer between bicyclists and fast-moving automobiles. All major roads should have sidewalks on them, especially if they have community facilities located alongside them.		Marked Bicycle Lanes	Sidewalks - Both Sides	5.30	$10,175,562	74	10	26	23	11

APPENDIX E. List of All Recommended Transportation Improvements, Continued

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Estimated Cost	Score	Road	Bike	Ped	General
96	SR 17, Segment 2	Blue Jay Road to Midland Road	SW	The State Bike Route present along this road segment should be upgraded to include dedicated facilities due to volume and speed of adjacent traffic. Because a nearby rails-to-trails conversion (#89) may be costly or take some time to plan, SR 17 should be upgraded to accommodate multiple modes.		Marked Bicycle Lanes		4.96	$5,206,349	37	10	21	0	6
97	SR 30, Segment 1	Nease Road to Kolic Helmey Road	SW	Many residents in area need to access middle and high schools. Busy road requires separate pedestrian facilities for safety. This is an important link in a continuous pedestrian network.			Sidewalks - Both Sides	3.06	$2,666,321	39	10	0	23	6
98	SR 30, Segment 2	SR 17 to Nease Road	SW	Many residents in area need to access middle and high schools. Busy road requires separate pedestrian facilities for safety. This is an important link in a continuous pedestrian network.		Marked Bicycle Lanes	Sidewalks - Both Sides	2.12	$4,063,682	70	10	26	23	11
99	Unknown road between Honey Ridge Road and Ogeechee River on 119	Entire length	SW	Paving this road will improve access to the river and decrease maintenance needs. If project #81 is completed concurrently, regional connectivity will improve and divert some vehicular traffic from Honey Ridge Road to this route which has fewer nearby residences.	Paving			3.32	$2,025,494	28	23	0	0	5
100	US 80, Segment 1	SR 17 to Chatham County Line	SW	Four state bike routes utilize this stretch of road and should have dedicated facilities for safety. Additionally, all arterials should have sidewalks as they provide direction connections between many origins and destinations.		Marked Bicycle Lanes	Sidewalks - Both Sides	0.78	$1,494,642	65	10	26	23	6
101	US 80, Segment 2	SR 17 to Sandhill Road	SW	Continuation of widening from Chatham County, terminate at Sand Hill Road (or Old River Road). State bike route. provide facilities (lanes/sidewalks) on all of US 80 within Effingham. Four state bike routes utilize this stretch of road and should have dedicated facilities for safety. All arterials should have sidewalks.	Widen (2-->4 Lanes)	Marked Bicycle Lanes	Sidewalks - Both Sides	4.48	$21,487,285	87	30	26	23	9
102	US 80, Segment 3	Sandhill Road to Bulloch County Line	SW	Arterials should have sidewalks for multi-modal safety and accessibility. Additionally, facilities for a long distance state bike route are needed as the route continues into Bulloch County to connect with their greenway plan.		Wide Shoulder	Sidewalks - Both Sides	1.09	$1,775,631	60	10	21	23	6
103	Anderson Street	SR 17 to Magnolia Street	Guyton	This is a key segment of integrated pedestrian network in Guyton, and connects an elementary school to a park, and local residents to both.			Sidewalks - Both Sides	0.29	$251,197	37	0	0	23	10
104	Gracen Road	SR 119 to Summer Place	Guyton	This is a key segment of integrated pedestrian network in Guyton, and connects an elementary school to a park, and local residents to both.			Sidewalks - Both Sides	0.45	$388,500	37	0	0	23	10
105	Guyton Rails-To-Trails (underway)	Downtown Guyton	Guyton	This project is already under construction, and provides an exciting recreational opportunity in the middle of the City of Guyton. Expanded southward into Meldrim, this rails-to-trails project also constitutes a viable bicycle commuter route.		Multi-Use Path	Multi-Use Path	0.74	$0, Currently under construction	63	0	26	23	10
106	Magnolia Street	SR 119 to Anderson Street	Guyton	This is a key segment of integrated pedestrian network in Guyton, and safely connects residents to multiple parks as well as area business located along SR 119.			Sidewalks - Both Sides	0.85	$742,130	37	0	0	23	10
107	119/21 Realignment in Springfield	SR 119 at school driveway to Old Tusculsum Road	Springfield	GDOT has finished the design phase for this project, which will lead to more optimal truck movement in the area. However, sidewalks should be added to this roadway segment to connect west and east Springfield to each other, as well as a nearby school. In STIP.	New Two-Lane Road		Sidewalks - Both Sides	0.52	$450,065	61	23	0	23	11
108	119/21 Realignment in Springfield	Laurel Street to Old Dixie Highway	Springfield	GDOT has finished the design phase for this project, which will lead to more optimal truck movement in the area. In STIP.	New Two-Lane Road			0.34	$0, Currently under construction	34	23	0	0	11
109	2nd Street	Ash Street to RR Avenue	Springfield	One of several streets highlighted in Springfield to provide E-W city street connectivity. Ultimately a block-by-block local pedestrian and bicycle plan should be developed by the City of Springfield, but highlighted improvements serve as a preliminary guide to potential multi-modal upgrades.			Sidewalks - Both Sides	0.34	$294,224	32	0	0	23	5

APPENDIX E. List of All Recommended Transportation Improvements, Continued

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Estimated Cost	Score	Road	Bike	Ped	General
110	3rd Street	SR 21 to S Laurel Street	Springfield	One of several streets highlighted in Springfield to provide E-W city street connectivity. Ultimately a block-by-block local pedestrian and bicycle plan should be developed by the City of Springfield, but highlighted improvements serve as a preliminary guide to potential multi-modal upgrades.			Sidewalks - Both Sides	0.63	$547,672	32	0	0	23	5
111	Ash Street / Ash Street Extension	S Laurel Street to Early Street	Springfield	One of several streets highlighted in Springfield to provide N-S city street connectivity. Ultimately a block-by-block local pedestrian and bicycle plan should be developed by the City of Springfield, but highlighted improvements serve as a preliminary guide to potential multi-modal upgrades.			Sidewalks - Both Sides	1.97	$1,714,552	37	0	0	23	10
112	E Madison Street	Laurel Street to N Ash Street	Springfield	One of several streets highlighted in Springfield to provide E-W city street connectivity. Ultimately a block-by-block local pedestrian and bicycle plan should be developed by the City of Springfield, but highlighted improvements serve as a preliminary guide to potential multi-modal upgrades.			Sidewalks - Both Sides	0.28	$245,859	37	0	0	23	10
113	Early Street	Laurel Street to "Springfield ES Drive Ext" between Ash Street and Lake Dr	Springfield	One of several streets highlighted in Springfield to provide E-W city street connectivity. Ultimately a block-by-block local pedestrian and bicycle plan should be developed by the City of Springfield, but highlighted improvements serve as a preliminary guide to potential multi-modal upgrades.			Sidewalks - Both Sides	0.35	$303,452	32	0	0	23	5
114	Railroad Avenue	W 2nd Street to W 3rd Street	Springfield	One of several streets highlighted in Springfield to provide N-S city street connectivity. Ultimately a block-by-block local pedestrian and bicycle plan should be developed by the City of Springfield, but highlighted improvements serve as a preliminary guide to potential multi-modal upgrades.			Sidewalks - One Side	0.07	$29,181	32	0	0	23	5
115	S Laurel Street	SR 21 to SR 119/SR 21 Realign	Springfield	One of several streets highlighted in Springfield to provide N-S city street connectivity. Ultimately a block-by-block local pedestrian and bicycle plan should be developed by the City of Springfield, but highlighted improvements serve as a preliminary guide to potential multi-modal upgrades.		Marked Bicycle Lanes	Sidewalks - Both Sides	2.19	$4,213,570	64	0	26	23	11
116	Springfield Elementary School Drive Extension	Early Street to Spring ES driveway entrance	Springfield	Extending Ash St northward (to the left side of the Armory) to Early Street will provide a direct connection between homes and residences in the area and downtown Springfield. This is an essential link in creating a more connected street network on the northern side of town and reducing dependency on automobiles for local trips.	New Two-Lane Road		Sidewalks - Both Sides	0.33	$1,138,500	60	23	0	23	10
117	SR 119, Segment 3	SR 21 to Laurel St	Springfield	This recommended multi-use path along this roadway segment provides safe, direct multi-modal access to Downtown Springfield, and is a continuation of project #78. It also accommodates a State Bike Route.		Multi-Use Path	Multi-Use Path	0.43	$477,864	61	0	26	23	9
118	SR 21, Segment 4	SR 21@ S Laurel Street to SR 119/SR 21 Realign	Springfield	One of several streets highlighted in Springfield to provide N-S city street connectivity. This segment provides direct access to the primary County Hospital and Veterans Park. Ultimately a block-by-block local pedestrian and bicycle plan should be developed by the City of Springfield, but highlighted improvements serve as a preliminary guide to potential multi-modal upgrades.			Sidewalks - Both Sides	2.65	$2,309,836	48	10	0	23	11
119	Standard Lane	SR 119 to Old Tusculum Road	Springfield	This roadway segment is recommended to include sidewalks as it will provide direct pedestrian connectivity between neighborhoods, a school, hospital, and park.			Sidewalks - Both Sides	0.91	$789,739	47	10	0	23	10
120	Stillwell Road	Laurel Street to Ash Street	Springfield	One of several streets highlighted in Springfield to provide E-W city street connectivity. Ultimately a block-by-block local pedestrian and bicycle plan should be developed by the City of Springfield, but highlighted improvements serve as a preliminary guide to potential multi-modal upgrades.			Sidewalks - Both Sides	0.36	$311,605	32	0	0	23	5

APPENDIX E. List of All Recommended Transportation Improvements, Continued

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Estimated Cost	Score	Road	Bike	Ped	General
121	W 1st Street Extension	SR 21 to SR 119	Springfield	A sidewalk is needed in front of the hospital and Veteran's Park to provide connectivity between them and downtown Springfield's commericial areas, neighborhoods, and community facilities.			Sidewalks - Both Sides	0.39	$335,499	37	0	0	23	10
122	4th Street / Rincon Stillwell Road	SR 21 to Bunyan Kessler Road	Rincon	Key segment of integrated bicycle/pedestrian network, connects residential neighborhoods with downtown Rincon and Elementary School		Marked Bicycle Lanes	Sidewalks - One Side	1.49	$2,208,787	75	10	26	23	13
123	Blue Jay / Blandford Road	SR 21 to McCall Road	Rincon	Blue Jay is the primary E-W connector south of SR 119 and should have dedicated pedestrian and bicycle facilities. Occasional right turn lanes will improve traffic flow, though additional vehicular through-lanes are not justified by the study's travel demand model at this time.	Occasional Right Turn Lanes	Multi-Use Path	Multi-Use Path	1.89	$3,412,727	89	20	26	23	16
124	Carolina Avenuenue (South)	W 17th Street to N Ridge Drive	Rincon	This project provides rear access to Lowe's and other development along SR 21 from residential Rincon, reducing the need for local traffic to utilize arterials. It was specifically requested by the Rincon planning department.	New Two-Lane Road	Wide Shoulder	Sidewalks - One Side	0.69	$2,381,201	75	23	21	23	5
125	E 9th Street (Rincon)	SR 21 to Lexington Avenue	Rincon	One of several streets highlighted in Rincon to provide E-W city street connectivity. Ultimately a block-by-block local pedestrian and bicycle plan should be developed by the City of Rincon, but highlighted improvements serve as a preliminary guide to potential multi-modal upgrades.			Sidewalks - Both Sides	0.18	$159,729	37	0	0	23	10
126	Fort Howard Road, Segment 2	SR 21 to Old Augusta Road	Rincon	Roadway operations and access to residential development would be improved with turn lanes. This road is the primary means of access to Rincon and SR 21 for many residents, and dedicated pedestrian and bicycle facilities are recommended to give all residents transportation choice. Fort Howard Road is also a key segment of an integrated bicycle network to the east of Rincon	Widen (+ turn lane)	Marked Bicycle Lanes	Sidewalks - Both Sides	2.51	$6,517,039	99	30	26	23	16
127	Fort Howard Road, Segment 3	SR 21 to McCall Road	Rincon	Ft Howard is an important E-W connector and should be continued west to provide direct access to employment center. Develop road (and RR crossing) as part of DRI. Construct "Complete Street" with bike lanes and sidewalks. Eventually this and parallel roads should connect to future Effingham Parkway.	New Two-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	1.29	$0, build as part of DRI	81	23	26	23	6
128	Lexington Avenuenue	9th Street to Madison Oaks Drive (Rincon)	Rincon	Lexington Avenuenue is a key segment of an integrated pedestrian network. It connects residential areas with downtown Rincon, a ballpark, and an elementary school.			Sidewalks - Both Sides	1.44	$1,255,250	52	10	0	23	15
129	North Ridge Road	end of current road to Carolina Avenue extension parallel to RR Tracks (Rincon)	Rincon	Needed for continuation of connectivity (project #124) and providing local alternative to SR 21.	New Two-Lane Road			0.23	$694,864	33	23	0	0	10
130	Richland Avenuenue Extension	10th Street (Rincon) to Fort Howard Road	Rincon	Parallel/Rear access to development along SR 21 from residential Rincon. Requested by Rincon city planner. Increases connectivity, mobility, and access.	New Two-Lane Road			0.77	$2,274,897	48	33	0	0	15
131	Rincon Stillwell Road	Ft Howard Road to Ebenezer Road	Rincon	Part of scenic route system, key segment of bicycle network, provides access from residential areas in Rincon to Ebenezer Middle School and High School and ind park. Build in conjunction with Ft Howard, Rincon Stillwell, and 4th St bicycle facilities.		Marked Bicycle Lanes		1.40	$1,475,082	42	0	21	0	18
132	Smith Avenuenue Extension	Smith Avenue to E 4th Street (Rincon)	Rincon	This segment is a continuation of Rincon's residential grid system. At a minimum, preserve right-of-way for transportation improvement as a part of new development.	New Two-Lane Road			0.20	$579,241	33	23	0	0	10

APPENDIX E. List of All Recommended Transportation Improvements, Continued

Proj. ID	Facility Name	Extents	Area of County	Details / Justification	Roadway Improvement	Bicycle Improvement	Pedestrian Improvement	Length	Estimated Cost	Score	Road	Bike	Ped	General
133	SR 21, Segment 1	Old Augusta to Ft Howard Road	Rincon	Widening to 6 lanes (from I-95 through the City of Rincon) is justified by this study's travel demand model to provide adequate automobile capacity for Level of Service C or above in 2030, based on current travel behavior. However, any widening of SR 21 within Rincon city limits would negatively impact the existing urban character and future corridor revitalization efforts. Thus, Fort Howard Road is recommended as the northernmost potential terminus of this roadway widening project. Based on the preliminary environmental review, there are also a number of properties and structures along SR 21 between Goshen Road and Fort Howard Road in unincorporated Effingham that would be potentially impacted by a roadway widening. First implementing appropriate ITS and operational improvements (access management, channelized right turn lanes) on SR 21 in Chatham County could delay the need for widening of SR 21 north of the Effingham/Chatham County Line or Goshen Road. Regardless of improvements implemented for automobile movement, safe pedestrian and bicycle access is necessary along this corridor. Due to high adjacent traffic volume and speeds, a multi-use path on each side of SR-21 is recommended to separate walkers and bicyclists from cars.	Widen (4-->6 Lanes)	Multi-Use Path	Multi-Use Path	3.60	$19,404,000	99	30	26	23	16
134	SR 21, Segment 2	Ft Howard Road to 4th Street (Rincon)	Rincon	Continue to implement multi-use paths along SR 21 to provide multi-modal access to school, downtown, residential areas. SR 21 is a key segment of an integrated multimodal network.		Multi-Use Path	Multi-Use Path	1.37	$1,508,809	79	10	26	23	16
135	SR 21, Segment 3	4th St (Rincon) to Laurel St (Springfield)	Rincon	Construct dedicated bicycle and pedestrian facilities along SR 21 to provide a direct multi-modal connection between Rincon and Springfield. This roadway segment is a proposed State Bike Route and also provides access to employment centers at Ebenezer Road and SR 21 as well as schools and recreational opportunities.		Marked Bicycle Lanes	Sidewalks - Both Sides	6.01	$11,539,200	79	10	26	23	16

Detailed Evaluation Scoring

Location		Improvement Type			Score by Category					Roadway						Bike						Pedestrian						General			
Proj ID	Facility Name	Roadway	Bicycle	Pedestrian	Total Score	Road	Bike	Ped	General	Accessibility	Connectivity	Mobility	Level of Service	Safety - Hotpsot	Economic Development (ED)	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	Character - Multi-Use	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	ED - MM, In City or Community	Feedback from Stakeholders or Public	Local Benefit, Proximity to Community Facilities	Character - Scenic	Located on arterial or collector
1	Boaen Road	Paving			**38**	**33**	**0**	**0**	**5**	0	7.5	4	5	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
2	Boaen Road Extension	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
3	Effingham Parkway - Northeastern	New Two-Lane Road			**43**	**33**	**0**	**0**	**10**	5	7.5	4	0	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0
4	Griffin Lake Road Extension	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
5	Morgan Road	Paving			**38**	**33**	**0**	**0**	**5**	0	7.5	4	5	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
6	Morgan Road Extension	New Two-Lane Road	Rural Route – Signage Only		**42**	**23**	**9**	**0**	**10**	5	7.5	4	0	0	6	2.5	2.5	1.5	2.5	0	0	0	0	0	0	0	0	5	5	0	0
7	Old Tusculum Road, Segment 2			Sidewalks - Both Sides	**33**	**0**	**0**	**23**	**10**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	0	0	10	0	0
8	Porter Road	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
9	Powell Road Extension	New Two-Lane Road		Sidewalks - One Side	**61**	**33**	**0**	**23**	**5**	5	7.5	4	0	10	6	0	0	0	0	0	0	5	5	3	5	5	0	0	5	0	0
10	Sawmill Drive	Paving			**38**	**33**	**0**	**0**	**5**	0	7.5	4	5	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
11	Long Bridge Road		Marked Bicycle Lanes		**33**	**0**	**21**	**0**	**13**	0	0	0	0	0	0	5	5	3	2.5	5	0	0	0	0	0	0	0	0	10	2.5	0
12	Shearwood Road	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
13	Springfield-Tusculum Road	Paving			**28**	**23**	**0**	**0**	**5**	0	7.5	4	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
14	Springfield-Egypt Road	Paving			**38**	**33**	**0**	**0**	**5**	0	7.5	4	5	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
15	SR 17, Segment 4			Sidewalks - One Side	**43**	**10**	**0**	**23**	**6**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	1.3
16	SR 21, Segment 5			Sidewalks - One Side	**44**	**10**	**0**	**23**	**11**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	0	0	10	0	1.3
17	4th Street			Sidewalks - One Side	**32**	**0**	**0**	**23**	**5**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
18	Angus Exley Road Extension	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
19	Angus Exley Road	Paving			**28**	**23**	**0**	**0**	**5**	0	7.5	4	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0

Detailed Evaluation Scoring

Location		Improvement Type			Score by Category					Roadway						Bike						Pedestrian						General			
Proj ID	Facility Name	Roadway	Bicycle	Pedestrian	Total Score	Road	Bike	Ped	General	Accessibility	Connectivity	Mobility	Level of Service	Safety - Hotpsot	Economic Development (ED)	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	Character - Multi-Use	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	ED - MM, In City or Community	Feedback from Stakeholders or Public	Local Benefit, Proximity to Community Facilities	Character - Scenic	Located on arterial or collector
20	Bark Drive	Paving			**38**	**33**	**0**	**0**	**5**	0	7.5	4	5	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
21	Clyo-Kildare Road			Sidewalks - One Side	**42**	**10**	**0**	**23**	**5**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
22	Corinth Church Road	Paving			**38**	**33**	**0**	**0**	**5**	0	7.5	4	5	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
23	Fair Street			Sidewalks - One Side	**32**	**0**	**0**	**23**	**5**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
24	Indigo Road	Paving	Rural Route – Signage Only		**47**	**33**	**9**	**0**	**5**	0	7.5	4	5	10	6	2.5	2.5	1.5	2.5	0	0	0	0	0	0	0	0	0	5	0	0
25	Josiah Morgan - Sam Smart Connector	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
26	Josiah Morgan Road	Paving			**28**	**23**	**0**	**0**	**5**	0	7.5	4	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
27	Marion Ave			Sidewalks - One Side	**42**	**10**	**0**	**23**	**5**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
28	Lorenzo Hurst / Elbert Arnsdorff	Paving			**28**	**23**	**0**	**0**	**5**	0	7.5	4	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
29	Sam Smart Road	Paving			**38**	**33**	**0**	**0**	**5**	0	7.5	4	5	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
30	Shawnee Road, Segment 1			Sidewalks - One Side	**32**	**0**	**0**	**23**	**5**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
31	Shawnee Road, Segment 2	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
32	Sisters Ferry Road	Paving			**28**	**23**	**0**	**0**	**5**	0	7.5	4	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
33	SR 119, Segment 4	Shoulder Increase	Wide Shoulder		**59**	**30**	**16**	**0**	**14**	0	0	4	10	10	6	5	5	3	2.5	0	0	0	0	0	0	0	0	0	10	2.5	1.3
34	SR 119, Segment 5			Sidewalks - One Side	**33**	**0**	**0**	**23**	**6**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	1.3
35	SR 21, Segment 6			Sidewalks - One Side	**33**	**0**	**0**	**23**	**6**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	1.3
36	Stillwell-Clyo Road			Sidewalks - One Side	**32**	**0**	**0**	**23**	**5**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
37	4th Street / Rincon-Stillwell Road		Wide Shoulder		**23**	**0**	**16**	**0**	**8**	0	0	0	0	0	0	5	5	3	2.5	0	0	0	0	0	0	0	0	0	5	2.5	0
38	Azalea - Commercial Connector	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
39	Blue Jay Road	Widen (2-->3 Lanes)	Multi-Use Path	Multi-Use Path	**80**	**20**	**26**	**23**	**11**	0	0	4	10	0	6	5	5	3	2.5	5	5	5	5	3	5	5	0	5	5	0	1.3

Detailed Evaluation Scoring

Location		Improvement Type			Score by Category					Roadway						Bike						Pedestrian						General			
Proj ID	Facility Name	Roadway	Bicycle	Pedestrian	Total Score	Road	Bike	Ped	General	Accessibility	Connectivity	Mobility	Level of Service	Safety - Hotpsot	Economic Development (ED)	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	Character - Multi-Use	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	ED - MM, In City or Community	Feedback from Stakeholders or Public	Local Benefit, Proximity to Community Facilities	Character - Scenic	Located on arterial or collector
40	Bunyan Kessler Road		Wide Shoulder		**31**	**10**	**16**	**0**	**5**	0	0	0	0	10	0	5	5	3	2.5	0	0	0	0	0	0	0	0	0	5	0	0
41	Chimney Road		Wide Shoulder		**31**	**10**	**16**	**0**	**5**	0	0	0	0	10	0	5	5	3	2.5	0	0	0	0	0	0	0	0	0	5	0	0
42	Chimney - Busch Connector	New Two-Lane Road			**38**	**33**	**0**	**0**	**5**	5	7.5	4	0	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
43	Ebenezer Road			Sidewalks - Both Sides	**48**	**10**	**0**	**23**	**11**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	1.3
44	Effingham Parkway, Segment 2	New Two-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	**101**	**33**	**26**	**23**	**20**	5	7.5	4	0	10	6	5	5	3	2.5	5	5	5	5	3	5	5	0	10	10	0	0
45	Effingham Parkway (Chatham)	New Four-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	**89**	**25**	**26**	**23**	**15**	5	0	4	10	0	6	5	5	3	2.5	5	5	5	5	3	5	5	0	10	5	0	0
46	Fort Howard Road, Segment 1		Wide Shoulder		**37**	**10**	**16**	**0**	**11**	0	0	0	0	10	0	5	5	3	2.5	0	0	0	0	0	0	0	0	5	5	0	1.3
47	Research Forest E-W connector	New Two-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	**96**	**33**	**26**	**23**	**15**	5	7.5	4	0	10	6	5	5	3	2.5	5	5	5	5	3	5	5	0	5	10	0	0
48	Goshen Road		Marked Bicycle Lanes	Sidewalks - Both Sides	**72**	**10**	**26**	**23**	**14**	0	0	0	0	10	0	5	5	3	2.5	5	5	5	5	3	5	5	0	7.5	5	0	1.3
49	Goshen/Hodgeville/Kolick Helmey Roads			Sidewalks - Both Sides	**49**	**10**	**0**	**23**	**16**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	0	5	10	0	1.3
50	Long Bridge Road			Sidewalks - One Side	**33**	**0**	**0**	**23**	**10**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	0	0	10	0	0
51	Long Pond Road		Wide Shoulder		**33**	**10**	**16**	**0**	**8**	0	0	0	0	10	0	5	5	3	2.5	0	0	0	0	0	0	0	0	0	5	2.5	0
52	Low Ground - Blue Jay Connector	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
53	McCall Road		Wide Shoulder	Sidewalks - Both Sides	**64**	**10**	**21**	**23**	**10**	0	0	0	0	10	0	5	5	3	2.5	0	5	5	5	3	5	5	0	0	10	0	0
54	McCall Road Extension	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
55	Mock Road Extension	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
56	Old Augusta Road		Wide Shoulder		**43**	**10**	**16**	**0**	**18**	0	0	0	0	10	0	5	5	3	2.5	0	0	0	0	0	0	0	0	10	5	2.5	0
57	Stephens Drive			Sidewalks - One Side	**38**	**10**	**0**	**23**	**5**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	0	0	5	0	0
58	Vale Royal Drive			Sidewalks - Both Sides	**33**	**0**	**0**	**23**	**10**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	0	5	5	0	0
59	Westwood Drive			Sidewalks -	**38**	**10**	**0**	**23**	**5**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	0	0	5	0	0

Detailed Evaluation Scoring

Location		Improvement Type			Score by Category					Roadway						Bike						Pedestrian						General			
Proj ID	Facility Name	Roadway	Bicycle	Pedestrian	Total Score	Road	Bike	Ped	General	Accessibility	Connectivity	Mobility	Level of Service	Safety - Hotpsot	Economic Development (ED)	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	Character - Multi-Use	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	ED - MM, In City or Community	Feedback from Stakeholders or Public	Local Benefit, Proximity to Community Facilities	Character - Scenic	Located on arterial or collector
				Both Sides																											
60	Wylly /High Bluff/ Tommy Long Road			Sidewalks - One Side	**47**	**10**	**0**	**23**	**10**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	0
61	Zipperer - Hodgeville Connector	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
62	Zipperer Road	Paving			**28**	**23**	**0**	**0**	**5**	0	7.5	4	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
63	Big T Road	Paving			**28**	**23**	**0**	**0**	**5**	0	7.5	4	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
64	Courthouse Road		Rural Route – Signage Only	Sidewalks - Both Sides	**52**	**10**	**14**	**23**	**5**	0	0	0	0	10	0	2.5	2.5	1.5	2.5	0	5	5	5	3	5	5	0	0	5	0	0
65	Effingham Parkway, Segment 1	New Four-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	**89**	**25**	**26**	**23**	**15**	5	0	4	10	0	6	5	5	3	2.5	5	5	5	5	3	5	5	0	10	5	0	0
66	Existing private road Off Low Ground Road	Paving			**28**	**23**	**0**	**0**	**5**	0	7.5	4	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
67	HS Access (to Deerfield Road)	New Two-Lane Road			**33**	**23**	**0**	**0**	**10**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0
68	Little McCall Road north terminus realign	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
69	Low Ground - Shirley Connector	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
70	Low Ground Road	Paving			**38**	**33**	**0**	**0**	**5**	0	7.5	4	5	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
71	Magnolia - Big T Connector	New Two-Lane Road			**28**	**23**	**0**	**0**	**5**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
72	Old Tusculum Road, Segment 1			Sidewalks - Both Sides	**33**	**0**	**0**	**23**	**10**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	0	0	10	0	0
73	Pleasant Acres Road	Paving			**48**	**33**	**0**	**0**	**15**	0	7.5	4	5	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	10	0	0
74	Pound Road / Floyd Road	Paving			**38**	**33**	**0**	**0**	**5**	0	7.5	4	5	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
75	Pound Road - Pleasant Acres Connector	New Two-Lane Road			**33**	**23**	**0**	**0**	**10**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0
76	Multi-Use Path along power line easement		Multi-Use Path	Multi-Use Path	**69**	**10**	**26**	**23**	**10**	0	0	0	0	10	0	5	5	3	2.5	5	5	5	5	3	5	5	0	0	10	0	0
77	Rahn Station Road		Wide Shoulder		**31**	**10**	**16**	**0**	**5**	0	0	0	0	10	0	5	5	3	2.5	0	0	0	0	0	0	0	0	0	5	0	0
78	SR 119, Segment 2	Widen (2-->3 Lanes)	Multi-Use Path	Multi-Use Path	**92**	**30**	**26**	**23**	**14**	0	0	4	10	10	6	5	5	3	2.5	5	5	5	5	3	5	5	0	0	10	2.5	1.3

Detailed Evaluation Scoring

Location		Improvement Type			Score by Category					Roadway						Bike						Pedestrian						General			
Proj ID	Facility Name	Roadway	Bicycle	Pedestrian	Total Score	Road	Bike	Ped	General	Accessibility	Connectivity	Mobility	Level of Service	Safety - Hotpsot	Economic Development (ED)	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	Character - Multi-Use	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	ED - MM, In City or Community	Feedback from Stakeholders or Public	Local Benefit, Proximity to Community Facilities	Character - Scenic	Located on arterial or collector
79	SR 17, Segment 3			Sidewalks - One Side	**33**	**0**	**0**	**23**	**6**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	1.3
80	Courthouse Road	New Two-Lane Road		Sidewalks - Both Sides	**56**	**23**	**0**	**23**	**10**	5	7.5	4	0	0	6	0	0	0	0	0	0	5	5	3	5	5	0	0	10	0	0
81	Heidt Landing Road	Paving	Rural Route – Signage Only		**47**	**33**	**9**	**0**	**5**	0	7.5	4	5	10	6	2.5	2.5	1.5	2.5	0	0	0	0	0	0	0	0	0	5	0	0
82	Honey Ridge Road			Sidewalks - Both Sides	**52**	**10**	**0**	**23**	**15**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	4	5	10	0	0
83	Jabez Jones Road		Marked Bicycle Lanes	Sidewalks - Both Sides	**69**	**10**	**26**	**23**	**10**	0	0	0	0	10	0	5	5	3	2.5	5	5	5	5	3	5	5	0	0	10	0	0
84	Meldrim - Jabez Jones Connector	New Two-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	**81**	**23**	**26**	**23**	**10**	5	7.5	4	0	0	6	5	5	3	2.5	5	5	5	5	3	5	5	0	5	5	0	0
85	Meldrim Road		Wide Shoulder		**31**	**10**	**16**	**0**	**5**	0	0	0	0	10	0	5	5	3	2.5	0	0	0	0	0	0	0	0	0	5	0	0
86	Midland Road			Sidewalks - Both Sides	**42**	**10**	**0**	**23**	**5**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
87	Nease Road			Sidewalks - One Side	**43**	**10**	**0**	**23**	**10**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	0	0	10	0	0
88	Old River Road	Widen (2-->4 Lanes)			**46**	**30**	**0**	**0**	**16**	0	0	4	10	10	6	0	0	0	0	0	0	0	0	0	0	0	0	10	5	0	1.3
89	Rails-to-Trails		Multi-Use Path	Multi-Use Path	**83**	**10**	**26**	**23**	**20**	0	0	0	0	10	0	5	5	3	2.5	5	5	5	5	3	5	5	4	10	10	0	0
90	S Effingham High School woodland path		Multi-Use Path	Multi-Use Path	**59**	**0**	**26**	**23**	**10**	0	0	0	0	0	0	5	5	3	2.5	5	5	5	5	3	5	5	0	0	10	0	0
91	Sand Hill Road, Segment 1	Widen (+ turn lane)	Marked Bicycle Lanes	Sidewalks - Both Sides	**86**	**20**	**26**	**23**	**14**	0	0	4	10	0	6	5	5	3	2.5	5	5	5	5	3	5	5	4	0	10	2.5	1.3
92	Sand Hill Road, Segment 2	Widen (+ turn lane)	Marked Bicycle Lanes	Sidewalks - Both Sides	**82**	**20**	**26**	**23**	**14**	0	0	4	10	0	6	5	5	3	2.5	5	5	5	5	3	5	5	0	0	10	2.5	1.3
93	Sand Hill Road, Segment 3		Wide Shoulder		**24**	**0**	**16**	**0**	**9**	0	0	0	0	0	0	5	5	3	2.5	0	0	0	0	0	0	0	0	0	5	2.5	1.3
94	SR 119, Segment 1	Shoulder Increase	Wide Shoulder		**57**	**30**	**16**	**0**	**11**	0	0	4	10	10	6	5	5	3	2.5	0	0	0	0	0	0	0	0	0	10	0	1.3
95	SR 17, Segment 1		Marked Bicycle Lanes	Sidewalks - Both Sides	**74**	**10**	**26**	**23**	**11**	0	0	0	0	10	0	5	5	3	2.5	5	5	5	5	3	5	5	4	0	10	0	1.3
96	SR 17, Segment 2		Marked Bicycle Lanes		**37**	**10**	**21**	**0**	**6**	0	0	0	0	10	0	5	5	3	2.5	5	0	0	0	0	0	0	0	0	5	0	1.3
97	SR 30, Segment 1			Sidewalks - Both Sides	**39**	**10**	**0**	**23**	**6**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	0	0	5	0	1.3
98	SR 30, Segment 2		Marked	Sidewalks -	**70**	**10**	**26**	**23**	**11**	0	0	0	0	10	0	5	5	3	2.5	5	5	5	5	3	5	5	0	0	10	0	1.3

Detailed Evaluation Scoring

Location		Improvement Type			Score by Category					Roadway						Bike						Pedestrian						General			
Proj ID	Facility Name	Roadway	Bicycle	Pedestrian	Total Score	Road	Bike	Ped	General	Accessibility	Connectivity	Mobility	Level of Service	Safety - Hotpsot	Economic Development (ED)	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	Character - Multi-Use	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	ED - MM, In City or Community	Feedback from Stakeholders or Public	Local Benefit, Proximity to Community Facilities	Character - Scenic	Located on arterial or collector
			Bicycle Lanes	Both Sides																											
99	Unknown road in vicinity of Honey Ridge Road	Paving			**28**	**23**	**0**	**0**	**5**	0	7.5	4	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
100	US 80, Segment 1		Marked Bicycle Lanes	Sidewalks - Both Sides	**65**	**10**	**26**	**23**	**6**	0	0	0	0	10	0	5	5	3	2.5	5	5	5	5	3	5	5	0	0	5	0	1.3
101	US 80, Segment 2	Widen (2-->4 Lanes)	Marked Bicycle Lanes	Sidewalks - Both Sides	**87**	**30**	**26**	**23**	**9**	0	0	4	10	10	6	5	5	3	2.5	5	5	5	5	3	5	5	0	0	5	2.5	1.3
102	US 80, Segment 3		Wide Shoulder	Sidewalks - Both Sides	**60**	**10**	**21**	**23**	**6**	0	0	0	0	10	0	5	5	3	2.5	0	5	5	5	3	5	5	0	0	5	0	1.3
103	Anderson Street			Sidewalks - Both Sides	**37**	**0**	**0**	**23**	**10**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	0
104	Gracen Road			Sidewalks - Both Sides	**37**	**0**	**0**	**23**	**10**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	0
105	Guyton Rails-To-Trails (underway)		Multi-Use Path	Multi-Use Path	**63**	**0**	**26**	**23**	**10**	0	0	0	0	0	0	5	5	3	2.5	5	5	5	5	3	5	5	4	0	10	0	0
106	Magnolia Street			Sidewalks - Both Sides	**37**	**0**	**0**	**23**	**10**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	0
107	119/21 Realignment in Springfield	New Two-Lane Road		Sidewalks - Both Sides	**61**	**23**	**0**	**23**	**11**	5	7.5	4	0	0	6	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	1.3
108	119/21 Realignment in Springfield	New Two-Lane Road			**34**	**23**	**0**	**0**	**11**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	1.3
109	2nd Street			Sidewalks - Both Sides	**32**	**0**	**0**	**23**	**5**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
110	3rd Street			Sidewalks - Both Sides	**32**	**0**	**0**	**23**	**5**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
111	Ash Street / Ash Street Extension			Sidewalks - Both Sides	**37**	**0**	**0**	**23**	**10**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	0
112	E Madison Street			Sidewalks - Both Sides	**37**	**0**	**0**	**23**	**10**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	0
113	Early Street			Sidewalks - Both Sides	**32**	**0**	**0**	**23**	**5**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
114	Railroad Ave			Sidewalks - One Side	**32**	**0**	**0**	**23**	**5**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
115	S Laurel Street		Marked Bicycle Lanes	Sidewalks - Both Sides	**64**	**0**	**26**	**23**	**11**	0	0	0	0	0	0	5	5	3	2.5	5	5	5	5	3	5	5	4	0	10	0	1.3
116	Springfield Elementary School Drive Extension	New Two-Lane Road		Sidewalks - Both Sides	**60**	**23**	**0**	**23**	**10**	5	7.5	4	0	0	6	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	0
117	SR 119, Segment 3		Multi-Use Path	Multi-Use Path	**61**	**0**	**26**	**23**	**9**	0	0	0	0	0	0	5	5	3	2.5	5	5	5	5	3	5	5	4	0	5	2.5	1.3

Detailed Evaluation Scoring

Location		Improvement Type			Score by Category					Roadway						Bike						Pedestrian						General			
Proj ID	Facility Name	Roadway	Bicycle	Pedestrian	Total Score	Road	Bike	Ped	General	Accessibility	Connectivity	Mobility	Level of Service	Safety - Hotpsot	Economic Development (ED)	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	Character - Multi-Use	Accessibility	Connectivity	Mobility	Public Transit	Safety - dedicated facility	ED - MM, In City or Community	Feedback from Stakeholders or Public	Local Benefit, Proximity to Community Facilities	Character - Scenic	Located on arterial or collector
118	SR 21, Segment 4			Sidewalks - Both Sides	**48**	**10**	**0**	**23**	**11**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	1.3
119	Standard Lane			Sidewalks - Both Sides	**47**	**10**	**0**	**23**	**10**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	0
120	Stillwell Road			Sidewalks - Both Sides	**32**	**0**	**0**	**23**	**5**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	5	0	0
121	W 1st Street Extension			Sidewalks - Both Sides	**37**	**0**	**0**	**23**	**10**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	0
122	4th Street / Rincon Stillwell Road		Marked Bicycle Lanes	Sidewalks - One Side	**75**	**10**	**26**	**23**	**13**	0	0	0	0	10	0	5	5	3	2.5	5	5	5	5	3	5	5	4	0	10	2.5	0
123	Blue Jay / Blandford Road	Occasional Right Turn Lanes	Multi-Use Path	Multi-Use Path	**89**	**20**	**26**	**23**	**16**	0	0	4	10	0	6	5	5	3	2.5	5	5	5	5	3	5	5	4	5	10	0	1.3
124	Carolina Avenue (South)	New Two-Lane Road	Wide Shoulder	Sidewalks - One Side	**75**	**23**	**21**	**23**	**5**	5	7.5	4	0	0	6	5	5	3	2.5	0	5	5	5	3	5	5	4	0	5	0	0
125	E 9th Street (Rincon)			Sidewalks - Both Sides	**37**	**0**	**0**	**23**	**10**	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	5	5	4	0	10	0	0
126	Fort Howard Road, Segment 2	Widen (+ turn lane)	Marked Bicycle Lanes	Sidewalks - Both Sides	**99**	**30**	**26**	**23**	**16**	0	0	4	10	10	6	5	5	3	2.5	5	5	5	5	3	5	5	4	10	5	0	1.3
127	Fort Howard Road, Segment 3	New Two-Lane Road	Marked Bicycle Lanes	Sidewalks - Both Sides	**81**	**23**	**26**	**23**	**6**	5	7.5	4	0	0	6	5	5	3	2.5	5	5	5	5	3	5	5	4	0	5	0	1.3
128	Lexington Avenue			Sidewalks - Both Sides	**52**	**10**	**0**	**23**	**15**	0	0	0	0	10	0	0	0	0	0	0	0	5	5	3	5	5	4	5	10	0	0
129	North Ridge Road	New Two-Lane Road			**33**	**23**	**0**	**0**	**10**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0
130	Richland Avenue Extension	New Two-Lane Road			**48**	**33**	**0**	**0**	**15**	5	7.5	4	0	10	6	0	0	0	0	0	0	0	0	0	0	0	0	5	10	0	0
131	Rincon Stillwell Road		Marked Bicycle Lanes		**42**	**0**	**21**	**0**	**18**	0	0	0	0	0	0	5	5	3	2.5	5	0	0	0	0	0	0	4	5	10	2.5	0
132	Smith Avenue Extension	New Two-Lane Road			**33**	**23**	**0**	**0**	**10**	5	7.5	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0
133	SR 21, Segment 1	Widen (4-->6 Lanes)	Multi-Use Path	Multi-Use Path	**99**	**30**	**26**	**23**	**16**	0	0	4	10	10	6	5	5	3	2.5	5	5	5	5	3	5	5	4	10	5	0	1.3
134	SR 21, Segment 2		Multi-Use Path	Multi-Use Path	**79**	**10**	**26**	**23**	**16**	0	0	0	0	10	0	5	5	3	2.5	5	5	5	5	3	5	5	4	5	10	0	1.3
135	SR 21, Segment 3		Marked Bicycle Lanes	Sidewalks - Both Sides	**79**	**10**	**26**	**23**	**16**	0	0	0	0	10	0	5	5	3	2.5	5	5	5	5	3	5	5	4	5	10	0	1.3

List of Intersection Improvements

Map ID	Location	Area of County	Cost	Type of Improvement / Justification
200	ITS of signalized intersections along SR 21	SE	$50,000	Improve operations, increase effective capacity
201	SR 119 @ Marion Ave / Sister's Ferry	NE	$20,000	In STIP. Add rumble strips and roadway curvature signs to Marion Ave approaching train tracks. On SR 21 N approaching Clyo, add reflectors, painted right-turn arrow, and signage announcing Clyo's location to improve safety.
202	Ft Howard Rd @ Old Augusta Rd	SE	$0, Part of Old Augusta Road project	Realignment: Straighten out Old Augusta so the Ft Howard "T"'s into it.
203	Kollick-Hamley Rd @ SR 30, Midland Rd @ SR 30	SE	$2,880,000	In CIP. Realign intersections to improve safety and operations along intercounty corridor
204	SR 21 @ Ebenezer / Rahn Station	SE	$11,000	In STIP. Add remaining crosswalks and pedestrian signals to complete intersection.
206	SR 21 @ McCall Rd	SE	$145,000	Signalization - safety, coordination + ped crossing. In STIP.
209	Courthouse Rd @ Little McCall Rd	Central	$22,000	Add rumble strips to intersection approaches, undertake study to determine whether signalization or roundabout is needed. Add pedestrian sidewalks and crosswalks.
210	Courthouse Rd @ McCall Rd @ SR 21	Central	$0, in CIP	In CIP. Add signal to SR 21 to allow cross-street traffic to safely traverse intersection. Add rumble strips on McCall Road and Courthouse Road to warn of approach to intersection.
211	Rahn Station Rd @ McCall Rd	Central	$0, part of Effingham Pkwy project	Long-term safety-related improvements to be implemented with construction of potential Effingham Pkwy
212	Midland Rd @ Blue Jay Rd	SW	$120,000	Safety-related signalization
213	Old River Rd @ US 80	SW	$3,025,000	Realign Old River Road to meet US 80 at perpendicular angle for safety and operational purposes. Add traffic signal and pedestrian accomodations. Add signage directing traffic to I-16.
215	SR 119 @ SR 21	Springfield	$750,000	Right-turn channelization from SR 119 EB to SR 21 SB to better accommodate emergency vehicles.
216	SR 21 @ 4th St	Rincon	$145,000	Add traffic signal with crosswalks and pedestrian countdown timers to this intersection for safety purposes.
217	SR 21 @ 9th St	Rincon	$0, in STIP	In STIP. Add traffic signal with crosswalks and pedestrian countdown timers to this intersection for safety purposes.

Recommended Transit Improvements

Map ID	Location	Extent	Type	Cost	Type of Improvement / Justification
300	no physical facilities	-	Demand-Response / Paratransit	$ 40,000	Locations identified that may have greater transit needs. Run through CGRDC
301	Eden P&R	Just south of intersection of US 80 and Old River Rd	Park and Ride lot - commuter	variable	Near Logisticenter, potential rails-to-trails facility, highway access, and population center
302	Rincon - P&R North	Near intersection of Ebenezer Rd and SR 21	Park and Ride lot or pick-up location - commuter	variable	Near new manufacturing plant, along key commuter route. Also connects to county bike lanes along Ebenezer Rd
303	Rincon - P&R South	Near intersection of Ft Howard Rd and SR 21	Park and Ride lot - commuter	variable	Can share P&R facility with Walmart lot, or have standalone facility

Rural Route Network

Note: These routes are in addition to those listed in the previous multi-modal project List

Map ID	Location	Type	Length (miles)
500	Corinth Church Road / Sam Smart Road / Morgan Road	Rural Bicycle Route – Signage Only	6.04
501	Morgan Road/ Lorenzo Hurst Road	Rural Bicycle Route – Signage Only	9.61
502	Springfield Road	Rural Bicycle Route – Signage Only	13.66
503	Stillwell-Clyo Road / Clyo-Kildare Road	Rural Bicycle Route – Signage Only	22.48
504	Old Louisville Road	Rural Bicycle Route – Signage Only	11.65
505	Shearwood Road / Egypt-Ardmore Road / Ardmore-Oaky Road	Rural Bicycle Route – Signage Only	10.55
506	SR 17, Segment 4	Rural Bicycle Route – Signage Only	10.28
507	Hodgeville Rd	Rural Bicycle Route – Signage Only	3.17
508	Old Tusculum Road/ Spring-Tusculum Road /Porter Road	Rural Bicycle Route – Signage Only	8.86
600	Ogeechee River	Blueway - Kayak Trail	47.30