



Camden County, Georgia

Bicycle and Pedestrian Plan

June 30, 2005

Prepared by:



127 F Street, Brunswick, Georgia, 31520
Phone: (912) 264-7363
Fax: (912) 262-2313

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COASTAL GEORGIA REGIONAL DEVELOPMENT CENTER

P. O. Box 1917
Brunswick, Georgia 31521
Telephone (912) 264-7363
Fax: (912) 262-2313

Website: www.coastalgeorgiadc.org

Vernon D. Martin, Executive Director

Project Supervisor

Paul B. Smith
Planning Director

Project Manager

Mushtaq Hussain

Planning Staff Who Assisted with the Project

Kathryn Murph, Intern
J. Paul Sansing, Planner I
Reggie Allen, Assistant GIS Technician

Secretarial Support Provided by:

Rachel Green, Secretary
Beth Kersey, Administrative Secretary

Camden County Government

Camden County Board of Commissioners

David L. Ranier, Chairman
E. B. Herrin
Preston Rhodes
Stephen L. Berry
Sanford S. Feller

Kingsland City Council

Mayor Kenneth Smith
Nancy Stasinis
Joe Limbach
Clarence Knight
Alexander Blount

St. Marys City Council

Mayor Deborah Hase
Jerry Lockhart
Gary Blount
William Deloughy
Rowland Eskridge
L.J. Williams

Woodbine City Council

Mayor W. Burford Clark, Jr.
Mark McAnaw
Mark Boswell
Louise V. Mitchell
William J. Miller

Camden County Bicycle and Pedestrian Advisory Committee

Dr. Max Tinsley
Planning Director
St. Marys, Georgia

Chuck Walker
President, Team Camden Cycling
Kingsland, Georgia

Sandra Rayson
City Administrator
Woodbine, Georgia

Terry Landreth
Turn 2 Bicycle Center, Inc.
Kingsland, Georgia

Matt LeCerf
Planning Director
Kingsland, Georgia

Walt Yourstone
Exec. Director, Camden Partnership
St. Marys, Georgia

Dianna Smith
County Clerk/Executive Assistant
Camden County

Peggy Kennedy
Camden County Recreation Center
Kingsland, Georgia

Dr. Mark Stewart
Director, Administrative Services
Camden County Board of Education

Trish McMillan
Director, Coastal Georgia Community College
Camden Center

Roger McDonald
Camden County Schools
Kingsland, Georgia

Celenda Perry
Camden Childrens Alliance & Resources
St. Marys, Georgia

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Chapter 1

Needs, Goals and Objectives

Introduction

Camden County is located at the south end of the coastal Georgia region. It borders with Florida on the south and Glynn County on the north.

The main transportation thoroughfare is Interstate 95, with an average of 38,000 to 41,000 vehicles daily, depending on location.¹ Interstate 95 runs north to south parallel to the coast. U.S. Highway 17 is a major highway that also runs north to south and connects Camden and Glynn counties. Highway 17 offers tourists an opportunity to stop and enjoy many scenic areas and historic attractions. Typically, major roads and infrastructure serve the urban areas in Camden County, where most existing bicycle and pedestrian travel is concentrated.

The Coastal Georgia Regional Development Center (CGRDC) has prepared the Camden County Bicycle and Pedestrian Plan through funding from the Georgia Department of Transportation (GDOT) and the Department of Community Affairs (DCA).

The RDC worked with the four local governments, the cities of Kingsland, St. Marys, and Woodbine, and Camden County to formulate the plan. A Bicycle and Pedestrian Advisory Committee (BPAC) was formed to guide the process. The BPAC met three times in the spring and early summer 2005 and provided valuable input in the preparation of this plan. A public meeting was held on May 10, 2005 at the Camden County Recreation Center in Kingsland. This meeting was well attended and provided the basis for the goals, objectives and needs identification. Notes from the BPAC meetings and the public meeting are provided in Appendix A.

Needs

In working with the Bicycle and Pedestrian Advisory Committee (BPAC), local government and the public, various bicycle and pedestrian needs were identified. These needs fall into the four “Es”: (1) Engineering, (2) Education, (3) Encouragement, and (4) Enforcement.

Engineering

Connecting Communities

- Need for paved shoulders on major roads connecting communities, such as Highway 17, St. Marys Road, Colerain Road/Laurel Island Parkway.
- Need to connect communities with rail trails where available (this provides alternate for less experienced cyclists and pedestrians).
- Need alternates to SR 40, which is dangerous for bicycling.

¹ Camden County Comprehensive Transportation Plan, Figure 2.5, page 2-10, Jordon Jones and Goulding, August 2004.

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Intra Community

- Need to connect residential areas to schools, parks and other attractions. Connect residential areas within 1.0 to 1.5 mile radius to schools with sidewalks and shared use paths where appropriate.
- Provide crosswalks at school entrance where appropriate.
- Provide sidewalks on major roads in high-density areas (communities).
- Need to designate certain roads as bike routes to connect areas within communities (e.g., in St. Marys).
- Residential developers need to build alternative transportation facilities.
- Need to determine the cause of bicycle and pedestrian crashes in the county and implement countermeasures.

Education

- Educate motorists in ways to effectively share the road with bicyclists.
- Provide bicycle-related information in driver's manual. The Department of Motor Vehicles (DMV) needs to add a few questions related to cyclists in driver's test.
- Provide safety education to children and adults and also promote the use of helmets.
- Camden County Schools provides lessons to elementary students on safety through their health and physical education classes. Also, preschoolers are provided with bicycle safety lessons from the local police. Additional programs for bicyclist and pedestrian safety should be introduced.

Encouragement

- Tourism is growing in Camden County. Team Camden Cycling, a bicycle tour club, provides bike tours for visitors at a nominal cost.
- Need to promote community-wide bike/walk to work and bike/walk to school on specific days and provide incentives.

Enforcement

- Enforce rules-of-the-road when bicycles and motor vehicles are operating on the same roads or intersecting roadways and other facilities.

Goals and Objectives

The following goals and objectives have been formulated through input from the BPAC and public meetings:

Goal I: Provide a network of bicycle and pedestrian facilities that allow a safe place for cyclists and pedestrians

Objectives:

1. Identify roads that need shoulders.
2. Identify and develop priority pedestrian (sidewalk) projects within the communities.

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3. Explore the possibility of developing rail trails in two abandoned railroad corridors within the County.
4. Work with GDOT and local governments to improve policies for providing bicycle and pedestrian accommodations on all roadway projects.
5. Work with Camden County Schools to identify safety and access needs and implement bicycle and pedestrian improvements within a 1.0 to 1.5-mile radius of each school in the county.

Goal II: Investigate reasons for bicycle and pedestrian crashes and provide countermeasures

Objectives:

1. Identify high accident locations and common crash types.
2. Propose specific countermeasures to address common crash types and improve safety at high accident locations.

Goal III: New developments need to provide bicycle and pedestrian accommodations

Objectives:

1. Provide pedestrian connections to schools when a new subdivision is developed within a 1.0 to 1.5 mile radius of the school.
2. Provide sidewalks on major streets in the new subdivisions.
3. Provide connection from cul-de-sacs to schools via shared use paths where necessary.

Goal V: Educate the public on Georgia laws pertaining to bicycle/pedestrian safety, rights and responsibilities

Objectives:

1. Implement Police on Bikes as part of Community Outreach Police programs in each jurisdiction within Camden County.
2. Work with Camden County Schools in developing and improving bicycle and pedestrian safety education programs for students.
3. Sponsor workshops with the assistance of the BPAC, Camden County Schools, FLETC (Federal Law Enforcement Training Center), and Community Outreach Police Officers to distribute information and educate the public regarding motorists, bicycle and pedestrian safety, rights and responsibilities.

Goal VII: Establish ongoing program to improve bicycling and walking conditions and safety

Objectives:

1. Conduct regular meetings of city and county officials, school administrators, health departments, and bicycle and pedestrian advocates to improve bicycling and walking conditions and safety in Camden County.
2. Encourage more biking and walking in the County through cooperative efforts of affected parties.

Chapter 2

Analysis of Motor Vehicle/Pedestrian and Motor Vehicle/Bicycle Crashes

The Coastal Georgia Regional Development Center obtained detailed police reports on motor vehicle/bicycle crashes and motor vehicle/pedestrian crashes from the Georgia State Patrol (Brunswick post), Kingsland Police Department, and St. Marys Police Department for calendar years 2002, 2003, 2004, and part of 2005.

Data from the police reports were entered into two separate databases using Pedestrian and Bicycle Crash Analysis Tool (PBCAT) version 2.0. The software was provided by the University of North Carolina Highway Safety Research Center to the RDC staff for *beta* testing. The software was used to enter and summarize information about each crash and to “type” the crashes.

Motor Vehicle/Pedestrian Crashes

The three police agencies provided reports for 14 motor vehicle/pedestrian crashes that occurred in Camden County from January 2002 through March 2005. The crashes are summarized by year, jurisdiction and severity in Table 1.

Table 1. Motor Vehicle /Pedestrian Crashes (2002 – 2005)

Jurisdiction	Annual Crashes				Total Crashes	Crashes Involving a Fatality	Crashes Involving an Injury
	2002	2003	2004	2005 partial			
Kingsland	2	1	0	0	3	1	2
St. Marys	2	2	3	2	9	0	9
County	0	2	0	0	2	1	1
Total	4	5	3	2	14	2	12

Source: Police Crash Reports, Data compiled by the CGRDC, 2005

Most of the motor vehicle/pedestrian crashes took place in the St. Marys (64 percent, with lesser numbers in Kingsland (21 percent), and the County (14 percent). All 14 crashes involved injury to the pedestrians. Two crashes resulted in pedestrian fatalities:

1. While attempting to cross Interstate 95 at night, a pedestrian was struck and killed by a tractor/trailer (County).
2. While attempting to cross State Route 40 near Woodhaven during the day and not at an intersection, a 12-year old female was struck and killed by a van (Kingsland).

Driver alcohol or drug use was not a factor in either crash according to police reports.

Only one crash took place at an intersection. Two took place on private property; one in a driveway and another in a Wal-Mart parking lot. All other crashes (79 percent) took place within a roadway corridor but not at an intersection.

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Typing motor vehicle/pedestrian crashes is relatively new. As stated earlier CGRDC staff are *beta* testing PBCAT software which includes crash typing capability. All 14 motor vehicle/pedestrian crashes in Camden County were typed. The results are provided in Table 2.

Table 2. Motor Vehicle/Pedestrian Crashes by Crash Type

Count	Crash Type No.	Crash Type Description
3	741	Dash
2	760	Pedestrian Failed to Yield
2	150	Motor Vehicle Loss of Control
1	910	Crossing an Expressway
1	791	Motorist Right Turn - Parallel Paths
1	610	Standing in Roadway
1	410	Walking along Roadway with Traffic - from Behind
1	250	Play Vehicle-related
1	211	Backing Vehicle - Driveway
1	110	Assault with Vehicle
14		Total

The most common type of motor vehicle/pedestrian crash in Camden County is the **Dash** type where the pedestrian runs into the roadway and collides with a motor vehicle. In all three such crashes in Camden County, the pedestrian ran across the road and struck the side of the motor vehicle. In two cases the police categorized the pedestrian injuries as ‘visible’ (but not serious) and in the third, the pedestrian was not injured. All of the pedestrians were children (ages 2, 10 and 16).

The next most common crash type is **Pedestrian Failed to Yield**. In one of these crashes, a pedestrian got off a church van and walked across the road in front of an oncoming vehicle. The fatality crash in Kingsland, which involved a pedestrian attempting to cross SR 40 in Kingsland, also falls in this crash type. These pedestrians were also children (ages 12 and 14).

Two crashes are typed as **Motor Vehicle Loss of Control** crashes. One of these crashes occurred when a motorist driving under the influence of alcohol lost control of his vehicle on a curve and struck a pedestrian along the edge of the roadway. The second crash of this type also involved a motorist running off the road on a curve and striking a pedestrian. In this instance the pedestrian was walking on the sidewalk. This motorist appeared to be intoxicated according to the victim.

One crash involved a pedestrian **Walking along Roadway with Traffic** hit from behind by a motor vehicle. The pedestrian was walking along SR 40 near Vacunna Road (County). The two-lane state highway is only 24 feet wide and has no paved shoulders. The crash occurred at night under foggy conditions.

In another crash, a motorist making a right turn from Lakes Boulevard to Lakeside Drive in Kingsland was cited for failure to yield to a pedestrian in a crosswalk. The crash type is **Motorist Right Turn – Parallel Paths**.

Detailed data on each of the 14 motor vehicle/pedestrian crashes are provided in Table 3.

Table 3. Detailed Motor Vehicle/Pedestrian Crash Data (Camden County, Georgia, Jan. 2002 - Mar. 2005)

No.	Date	Time	Crash Type	Crash Type Description	Hit & Run	Jurisdiction	Street Name	Driver Alcohol Drug Use	Ped Age	Gender	Injury Severity	Roadway Alignment	Speed Limit	Surface Condition	Light Conditions
1	12/2/2003	2155	910	Crossing an Expressway	No	County	I-95	No		M	Fatal	Straight	70	Dry	Dark, No St. Lights
2	2/1/2003	0115	410	Walking Along Roadway with Traffic	No	County	SR 40	No		M	Serious	Straight	55	Wet	Dark, No St. Lights
3	8/14/2002	0753	791	Motorist Right Turn - Parallel Paths	No	Kingsland	Lakes Blvd	No	11	M	Complaint	Straight	25	Dry	Daylight
4	11/4/2003	1620	760	Pedestrian Failed to Yield	No	Kingsland	SR 40	No	12	F	Fatal	Straight	45	Dry	Daylight
5	1/1/2002	1419	211	Backing Vehicle - Driveway	No	Kingsland	private driveway	No	2	F	Serious	Straight		Unknown	Unknown
6	3/10/2005	1803	250	Play Vehicle-related	No	St Marys	Palmetto St	No	8	M	Serious	Straight	25	Dry	Daylight
7	7/14/2002	2258	110	Assault with Vehicle	Yes	St Marys	Walmart Pk Lot	Unknown			Visible	NA		Unknown	Unknown
8	7/28/2004	1315	741	Dash	No	St Marys	Borrell Blvd	No	10	M	Visible	Straight	35	Dry	Daylight
9	4/21/2004	2126	760	Pedestrian Failed to Yield	No	St Marys	Moeckel Lane	No	14	F	Visible	Straight	25	Dry	Dark, St. Lights
10	3/15/2004	0539	150	Motor Vehicle Loss of Control	Yes	St Marys	St Marys St	Possible	56	F	Visible	Curve	25	Dry	Dark, St. Lights
11	4/2/2003	1716	741	Dash	No	St Marys	Osborne St	No	2	F	Visible	Straight	35	Dry	Daylight
12	8/22/2002	1558	741	Dash	No	St Marys	Martha Dr	No	16	F	Visible	Straight	35	Dry	Daylight
13	1/20/2005	0050	610	Standing in Roadway	Yes	St. Marys	St Marys Rd	Yes	25	M	Serious	Straight	45	Unknown	Unknown
14	6/29/2003	1610	150	Motor Vehicle Loss of Control	No	St Marys	Douglas Dr	Yes	39	M	Visible	Curve	35	Dry	Daylight

Motor Vehicle /Bicycle Crashes

The three police agencies provided reports for 11 motor vehicle/bicycle crashes that occurred in Camden County from January 2002 through March 2005. The crashes are summarized by year, jurisdiction and severity in Table 4.

Table 4. Motor Vehicle /Bicycle Crashes (2002 – 2005)

Jurisdiction	Annual Crashes				Total Crashes	Crashes Involving a Fatality	Crashes Involving an Injury
	2002	2003	2004	2005 partial			
Kingsland	1	0	0	0	1	0	1
St. Marys	2	5	1	1	9	0	9
County	0	0	0	1	1	1	0
Total	3	5	1	2	11	1	10

Source: Police Crash Reports, Data compiled by the CGRDC, 2005

Most of the motor vehicle/bicycle crashes took place in the St. Marys (82%), with lesser numbers in Kingsland (9%), and the County (9%). All 11 crashes involved injury to the cyclists. One crash resulted in a bicyclist fatality. A motorist improperly passing another motor vehicle collided head on with a bicyclist. The crash occurred at night on Greenville Road, which is a two-lane road less than 20 feet wide with no paved shoulders.

Four crashes occurred on Douglas Drive in St. Marys. Two of these were head-on crashes, and two involved turning movements. In all 11 reported crashes, the bicyclist was a male. All 11 motor vehicle/bicycle crashes in Camden County were typed. The results are provided in Table 5.

Table 5. Motor Vehicle/Bicycle Crashes by Crash Type

Count	Crash Type No.	Crash Type Description
2	221	Bicyclist Left Turn - Same Direction
2	250	Head-On - Bicyclist
1	255	Head-On - Motorist
1	222	Bicyclist Left Turn - Opposite Direction
1	211	Motorist Left Turn - Same Direction
1	322	Motorist Drive Out - Commercial Driveway / Alley
1	319	Bicyclist Ride Out - Midblock - Unknown
1	160	Uncontrolled Intersection
1	139	Motorist Lost Control - Other / Unknown
11		Total

Three head-on crashes including the one fatality crash resulted from either the motorist or cyclist operating on the wrong side of the road. In two of these cases, both on Douglas Drive in St. Marys, the cyclist was riding against the flow of traffic in a travel lane in violation of the rules of the road. Wrong way cycling, a dangerous practice, is common in coastal Georgia.

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Another three of the crashes occurred when either the motorist or cyclist was making a left turn. Two cyclists were struck while riding on sidewalks. In one instance, a motorist traveling north on Spur 40 turned left and struck an adult cyclist traveling north on the sidewalk on the west side of the street. The police report stated that the cyclist did not stop at the intersection of Fifth Street. Cyclists traveling on sidewalks are required to stop at every roadway intersection. Motorists expect cyclists traveling in same direction to be on their side of the road, not the opposite side. In another case, an adult cyclist riding on a sidewalk was struck by a motor vehicle exiting a business on SR 40.

Detailed data on each of the 11 motor vehicle/bicycle crashes are provided in Table 6.

Countermeasures

One reason to study crash history is to identify patterns and evaluate whether changes in facility design or behavior might reduce crashes and crash rates. While only 25 cases involving motor vehicle crashes with pedestrians and bicycles were studied, common types of crashes were identified.

The incidence of motor vehicle/pedestrian crashes in Camden County could potentially be reduced through the following measures:

- Educate children on how to cross roadways safely
- Provide crosswalks, signalization and warning signs as needed to increase pedestrian safety
- Educate motorists to more aware of pedestrians crossing the road
- Reduce motor vehicle speeds

These measures involve education and enforcement as well as design. Provision of facilities for walking including sidewalks and paved roadway shoulders could also reduce crashes and improve safety. When no facilities are provided, pedestrians are often forced to walk on the road within travel lanes. This can lead to crashes like the crash on SR 40 near Vacuna Road where a pedestrian walking along the 24-ft wide two-lane state highway was struck from behind by a motor vehicle.

The incidence of head-on motor vehicle/bicycle crashes in Camden County could potentially be reduced through the following measures:

- Educate bicyclists to ride with traffic consistent with the rules of the road
- Educate motorists to properly overtake and pass bicycles traveling the same direction consistent with state law

Other measures to potentially reduce motor vehicle/bicycle crashes in Camden County are:

- Discourage sidewalk bicycling by adults due to greater potential for crashes at roadway and driveway intersections and conflicts with pedestrians (these facilities are not designed to accommodate two-way bicycle traffic and pedestrians)
- Provide on-road facilities for bicycling including paved shoulders on roads with open drainage and wide curb lanes or bike lanes on collector and arterial roads with curb and gutter
- Provide shared use paths for biking and walking in locations such as abandoned rail corridors

Table 6. Detailed Motor Vehicle/Bicycle Crash Data (Camden County, Georgia, Jan. 2002 - Mar. 2005)

No.	Date	Time	Crash Type	Crash Type Description	Hit & Run	Jurisdiction	Street Name	Driver Alcohol Drug Use	Cyclist Age	Cyclist Gender	Injury Severity	Roadway Alignment	Speed Limit	Surface Conditions
1	1/31/2005	1908	255	Head-On - Motorist	Yes	County	Greenville Rd	Unknown	17	M	Fatal	Straight	55	Dry
2	9/2/2002	1804	221	Bicyclist Left Turn - Same Direction	No	Kingsland	Lawnwood Ave	No	10	M	Visible	Straight	25	Dry
3	2/16/2005	1519	211	Motorist Left Turn - Same Direction	No	St Marys	SR 40 Spur	No	60	M	Complaint	Straight	---	Dry
4	1/27/2004	705	250	Head-On - Bicyclist	No	St Marys	Douglas Drive	No	61	M	Complaint	Curve	25	Dry
5	10/10/2003	1608	222	Bicyclist Left Turn - Opposite Direction	No	St Marys	New Pt. Peter Rd	No	15	M	Complaint	Straight	30	Dry
6	7/22/2003	957	250	Head-On - Bicyclist	No	St Marys	Douglas Drive	No	40	M	Visible	Straight	35	Dry
7	6/4/2003	1841	160	Uncontrolled Intersection	No	St Marys	Douglas Drive	No	17	M	Visible	Straight	35	Dry
8	5/9/2003	1613	221	Bicyclist Left Turn - Same Direction	No	St Marys	Douglas Drive	No	16	M	Unknown	Straight	35	Dry
9	7/10/2002	1905	139	Motorist Lost Control - Other / Unknown	No	St Marys	Martha Drive	No	42	M	Visible	Curve	30	Dry
10	1/14/2002	1437	319	Bicyclist Ride Out - Midblock - Unknown	No	St Marys	Mickler Drive	Unknown	11	M	Complaint	Straight	---	Wet
11	4/28/2003	1445	322	Motorist Drive Out - Commercial Drive	No	St Marys	SR 40	Unknown	28	M	Unknown	Straight		Unknown

Table 6 (cont). Detailed Motor Vehicle/Bicycle Crash Data (Camden County, Georgia, Jan. 2002 - Mar. 2005)

No.	Light Conditions	Bicyclist Direction	Bicyclist Position	Crash Location	Motor Vehicle Type	No. of Thru Lanes	Reference Street	Roadway Configuration	Roadway Type	Weather Conditions
1	Dark, No St Lights	With Traffic	Travel lane	Non-Intersection	Unknown	2	Springhill Rd	Two-way Undivided	Local / Municipal	Clear/Cloudy
2	Daylight	With Traffic	Travel lane	Non-Intersection	Car	2	SR 25	Two-way Undivided	Local / Municipal	Clear/Cloudy
3	Daylight	Facing Traffic	Sidewalk	Intersection	Other	4	Fifth St	Two-way Divided	State Primary	Clear/Cloudy
4	Dark, St Lights	Facing Traffic	Bike Lane/Paved Shld	Non-Intersection	Unknown	2	Colerain Rd	Two-way Undivided	Local / Municipal	Clear/Cloudy
5	Daylight	With Traffic	Travel lane	Intersection	Pickup	2	Cypress Lake Rd	Two-way Undivided	Local / Municipal	Clear/Cloudy
6	Daylight	Facing Traffic	Travel lane	Non-Intersection	Sport Utility	2	SR 40 Spur	Two-way Undivided	Local / Municipal	Clear/Cloudy
7	Daylight	NA	Travel lane	Intersection	Pickup	2	Rosewood Drive	Two-way Undivided	Local / Municipal	Clear/Cloudy
8	Daylight	With Traffic	Travel lane	Non-Intersection	Large Truck	2	Martha Drive	Two-way Undivided	Local / Municipal	Clear/Cloudy
9	Daylight	With Traffic	Other	Non-Intersection	Pickup	2	Mary Powell Drive	Two-way Undivided	Local / Municipal	Clear/Cloudy
10	Daylight	NA	Driveway / Alley	Non-Intersection	Car	2	School House Cr Rd	Two-way Undivided	Local / Municipal	Rain
11	Unknown	NA	Sidewalk	Non-Intersection	Unknown	4		Two-way Undivided	State Primary	Unknown

Chapter 3

Safe Routes to School

This chapter presents an analysis of existing bicycle and pedestrian accommodations and access to the 12 elementary and secondary schools in Camden County and makes recommendations for improvements. Initial contact was made with Dr. Will Hardin, Assistant Superintendent for Finance and Operations, who assigned Dr. Mark Stewart, Director of Administrative Services, to work with CGRDC on this aspect of the plan. CGRDC staff and Dr. Stewart met on April 4, 2005 and discussed specific access issues and opportunities at each of the Camden County schools.

Current enrollment in Camden County Schools is about 9600 students. In the morning about 4,900 students are transported by school bus. In the afternoon about 5,400 students ride the bus. Georgia law states that school districts are not required to transport students

Subsequently CGRDC staff visited each of the schools and investigated access issues and opportunities on each campus and in the vicinity on local streets and intersections. Discussions were held on-site with principals and other staff. Proposals for additional sidewalks, shared use paths and crossing improvements were developed and presented to city and county officials for review and comment. The final recommendations for improved bicycling and walking facilities and other related improvements are summarized by school in the remainder of the chapter. The projects are also included in tables with order of magnitude cost estimates in Chapter 7.

Kingsland

A meeting was held on June 2, 2005 with Matt LeCerf, Community Planning and Development Director, City of Kingsland. The safe routes to schools projects in Kingsland were refined based on discussions with Matt LeCerf.

Camden High School, Camden Middle School and Matilda Harris ES

Three schools are located in the area bounded by SR 40 on south, Gross Road on the east, Laurel Island Parkway on north and I-95 on west. The schools are Camden High School, Camden Middle School and Matilda Harris Elementary School (ES). Extensive sidewalk improvements are recommended in this area, which includes existing and planned components of the Lakes residential development. Funding options for the bicycle and pedestrian facilities include Special Purpose Local Option Sales Tax (SPLOST) and as part of new developments (primarily residential). The following improvements would link neighborhoods to the three schools and recreation facilities:

- Completion of sidewalk on Charles Gilman Jr. Avenue from Camden MS to Lakes Blvd
- Completion of sidewalk on Lakes Blvd from Lake Ashley Drive to Lake Palms Drive
- Construction of shared use path for pedestrians and bicycles on easement north of Lake Palms Drive to Charles Gilman/Lakes Blvd intersection [easement to be obtained from Soncel company]
- Construction of shared use path for pedestrians and bicycles on former railroad right-of-way from west end of Lakes Blvd East to Wildcat Drive
- Construction of sidewalk on Lakes Blvd north of Charles Gilman
- Construction of sidewalk on Wildcat Drive from Lakes Blvd East to Laurel Island Pkwy

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- Construction of a short segment of shared use path for pedestrians and bicycles linking the end of the cul-de-sac on Lake Forest Drive South to the rear of Matilda Harris ES

Accommodations for pedestrians and bicyclists are also needed on Gross Road and Laurel Island Parkway. These potential improvements are discussed as part of the *Planned Roadway Projects*.

David Ranier ES

David Ranier Elementary School is located on 850 May Creek Drive, west of I-95 and north of Scrubby Bluff Drive. The following sidewalk and path improvements are recommended to connect the David Ranier ES to nearby residential subdivisions:

- Completion of sidewalk on May Creek Drive from Cambridge Circle south to Harvard Court
- Completion of sidewalk on May Creek Drive from David Ranier ES north to the electric transmission corridor
- Construction of shared use path for pedestrians and bicycles on easement within electric transmission corridor from May Creek Drive west to Centerville Blvd with spur to end of cul-de-sac on Greenacres Drive

Kingsland ES

Kingsland ES is located on the south side of SR 40 west of Highway 17 and downtown Kingsland. A significant number of students live in the Meadows Subdivision on the north side of SR 40. The entire subdivision is within one mile of the school. There are no sidewalks connecting the Meadows Subdivision to Kingsland ES, and crossing SR 40 is considered dangerous for anyone, especially a child.

The following bicycle and pedestrian safety and access improvements are recommended:

- Connect Kingsland ES with nearby properties on the south side of SR 40 when they are developed.
- The property across SR 40 from the school may also be developed. Sidewalks should be provided on the entrance road and on the main subdivision street, with a shared use path connection to Woodbridge Road in the Meadows Subdivision.
- After the property across the highway is developed, provide a crosswalk on SR 40 with pedestrian-activated, signalized warning signing, and station a crossing guard during school start and end times

Mamie Lou Gross ES

Mamie Lou Gross ES is located on the north side of Harrietts Bluff Road west of Interstate 95. Nearly all current students live more than 1.5 miles from the school. Much of the land near the school is currently undeveloped. The following bicycle and pedestrian safety and access improvements are recommended:

- Connect Mamie Lou Gross ES with nearby properties on the north side of Harrietts Bluff Road when they are developed.

Woodbine

A meeting was held on June 2, 2005 with Sandra Rayson, Woodbine City Administrator. The safe routes to schools projects in Woodbine were refined based on discussions with Sandy Rayson.

Woodbine ES

Woodbine ES is located on the south side of Broadwood Drive west of the main part of Woodbine. The principal of the school said that one student currently bikes to school, and none walk to school. Very few students live in close proximity to the school. Some live in town, while most are bused in from Waverly, Dover Bluff, Spring Bluff and other locations in north Camden County.

The following bicycle and pedestrian safety and access improvements are recommended:

- Extend sidewalk on Broadwood Drive from Woodbine ES to Pine Forest Drive at entrance to Satilla River Landing

See discussion of *Additional Pedestrian and Bicycle Improvements* in Chapter 4.

St. Marys

A meeting was held on June 7, 2005 with Bobby Marr and St. Marys Public Works Department staff. The safe routes to schools projects in St. Marys were refined based on discussions with Bobby Marr and Public Works staff.

St. Marys ES

St. Marys ES is located on the east side of Osborne Street (SR 40) just north of City Hall. Bicycle and pedestrian access to the school is very good in comparison to most other schools in Camden County. The school is located in an older part of the city characterized by a grid street pattern, low motor vehicle speeds and an extensive sidewalk system. The speed limit on Osborne Street in front of the school is 35 mph. A crossing guard is deployed at the crosswalk on Osborne Street in front of the school at start and end times (8:00 AM and 2:30 PM). When the crossing guard is not there, a city police officer is deployed. About 20 children bicycle to school, 50 to 75 walk, and several ride skateboards.

Out of a total enrollment of 500, about 300 live within their attendance zone. The remainder live outside the attendance zone and attend this school by choice.

Discussions with Tom McClendon, Principal and with Bobby Marr, Public Works Director identified the following opportunities for improving bicycle and pedestrian safety and access:

- Improve provisions for on-street pick up/drop off
- Consider adding bicycle lanes on Osborne Street [sufficient space is available]
- Provide crosswalk on Osborne Street at Dillingham
- Provide crosswalk on Osborne Street at Church
- Complete sidewalk on Dillingham between Osborne and Ready streets adjacent to school [GIS coverage shows existing sidewalk that is not there]

See discussion of *Additional Pedestrian and Bicycle Improvements* in Chapter 4.

St. Marys Middle School

St. Marys Middle School is located on the north side of SR 40 at the intersection with Spur 40 (Charlie Smith Sr. Highway). About 1000 students attend this school. Middle school students who live south of SR 40 can cross at the fully signalized intersection with Spur 40. This intersection is equipped with four crosswalks, full pedestrian signals, pedestrian buttons and related instructional signing. Nonetheless, crossing SR 40 can be intimidating due to the large distance involved, high traffic volumes and turning vehicles. A school custodian is deployed at this location following the afternoon dismissal (3:25 PM). Morning coverage is sporadic.

Students and others have difficulty safely crossing Spur 40 at Douglas Street. Middle School officials expressed particular concern about pedestrian safety at this location. There is a crosswalk on Spur 40 at Douglas, but no traffic signals.

A new middle school is being constructed northeast of the present site. The primary access will be via Martha Street. GDOT has agreed to signalize the intersection of SR 40 and Martha Drive. Crosswalks and pedestrian signals will be provided. Design plans have already been prepared. The new school is scheduled to open in January 2006.

Discussions with school officials and with Bobby Marr, Public Works Director identified the following opportunities for improving bicycle and pedestrian safety and access:

- Evaluate options for improving safety of pedestrians crossing Spur 40 at Douglas Drive. Coordinate with Rob McCall, GDOT District V, Traffic Operations.
- Accelerate the construction of planned sidewalks connecting the new Middle School to residential areas on and near Palmetto Street
- Deploy a crossing guard on SR 40 at Martha Drive if needed following opening of the new middle school

Mary Lee Clark ES

Mary Lee Clark ES is located on the west side of Mickler Drive south of Colerain Road. There are good pedestrian connections to the neighborhoods near the school. An existing sidewalk runs on the east side of Mickler Drive from Colerain Road to School House Creek Drive. This sidewalk was recently extended 865 feet to the southwest to Kristins Drive at a cost of \$30,120.¹

A school employee deploys a 'rolling stop sign' on Mickler Street at the existing crosswalk near the northeastern corner of the school property. This is needed due to fast moving motor vehicles on Mickler including many construction vehicles.

Crossing Colerain Road is aided by a pedestrian underpass several hundred feet east of the Mickler Road intersection. This tunnel was built in the late 1980s and connects the school to residential properties on the north side of Colerain Road. Some students still prefer to cross Colerain Road at grade especially those in the Ashton Pines Apartments directly across the Mickler Street intersection.

¹ The unit cost of this 5-ft wide concrete sidewalk was \$34.82 per linear foot.

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Discussions with school officials and with Bobby Marr, Public Works Director identified the following opportunities for improving bicycle and pedestrian safety and access:

- Add crosswalk on Mickler Street at main school entrance
- Hire crossing guards to assist students crossing Mickler Street
- Educate motorists to slow down in school zones
- Provide pedestrian connections to school from new subdivisions when they are developed south and west of the school

Sugar Mill ES

Sugar Mill ES is located on the south side of Winding Road west of Spur 40. There are no sidewalks on Winding Road. According to Principal Mike Van Horn, no students currently bike or walk to the school. A significant number of Sugar Mill ES students live within one mile of the school. Many of these students could walk to school if a pedestrian route were provided from Plantation Village Drive to the school, including a safe crossing of Winding Road.

Discussions with school officials and with Bobby Marr, Public Works Director identified the following opportunities for improving bicycle and pedestrian safety and access:

- Extend sidewalk on Plantation Village Drive to its western terminus. Obtain easement to extend further west and over drainage ditch. Construct sidewalk down west side of drainage ditch to Winding Road.
- Construct sidewalk on north side of Winding Road from drainage ditch to school
- Provide crosswalk, pedestrian warning signs and signals and crossing guard on Winding Road at school entrance
- Construct sidewalks on entrance road and other collector streets within Winding River subdivision across the street from the school
- Provide pedestrian connections to school from new subdivisions built within one mile of the school

Crooked River ES

Crooked River ES is located on the west side of Spur 40 south of Winding Road. Most of the students live within Naval Submarine Base Kings Bay. Many of these students bike and walk to the Crooked River School. Naval security personnel man a gate from the base onto the school property. Students who ride bicycles park them on the base side of the fence. Of the 480 students, there are 50 to 100 who bike or walk to school.

All on-base housing will be privatized. The fence may be moved and more housing constructed. The Navy should insist on the construction of sidewalks, crosswalks and shared use paths as part of any new housing development, especially those near Crooked River ES or other schools.

Sidewalks and shared use path projects are shown on Maps 1 and 2. These include Safe Routes to School projects and additional projects described in Chapter 4.

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Safe Routes to School



Cars queued at the Ninth Grade Center at the afternoon let out.



Sidewalks could be added on Charles Gilman Rd (left) and a shared use path constructed at the north end of Lakes Blvd (right) to link residential neighborhoods to schools and recreation facilities in the Lakes development area.

Camden County Bicycle and Pedestrian Plan

Safe Routes to School



St. Marys Elementary School is located on Osborne Street (SR 40) in the older section of the city.



Crossing Route 40 at Spur 40 near the St. Marys Middle School is aided by traffic signals and marked crosswalks.



Spur 40 at Douglas Drive, a difficult intersection to cross en route to the St Marys Middle School.

Camden County Bicycle and Pedestrian Plan

Safe Routes to School



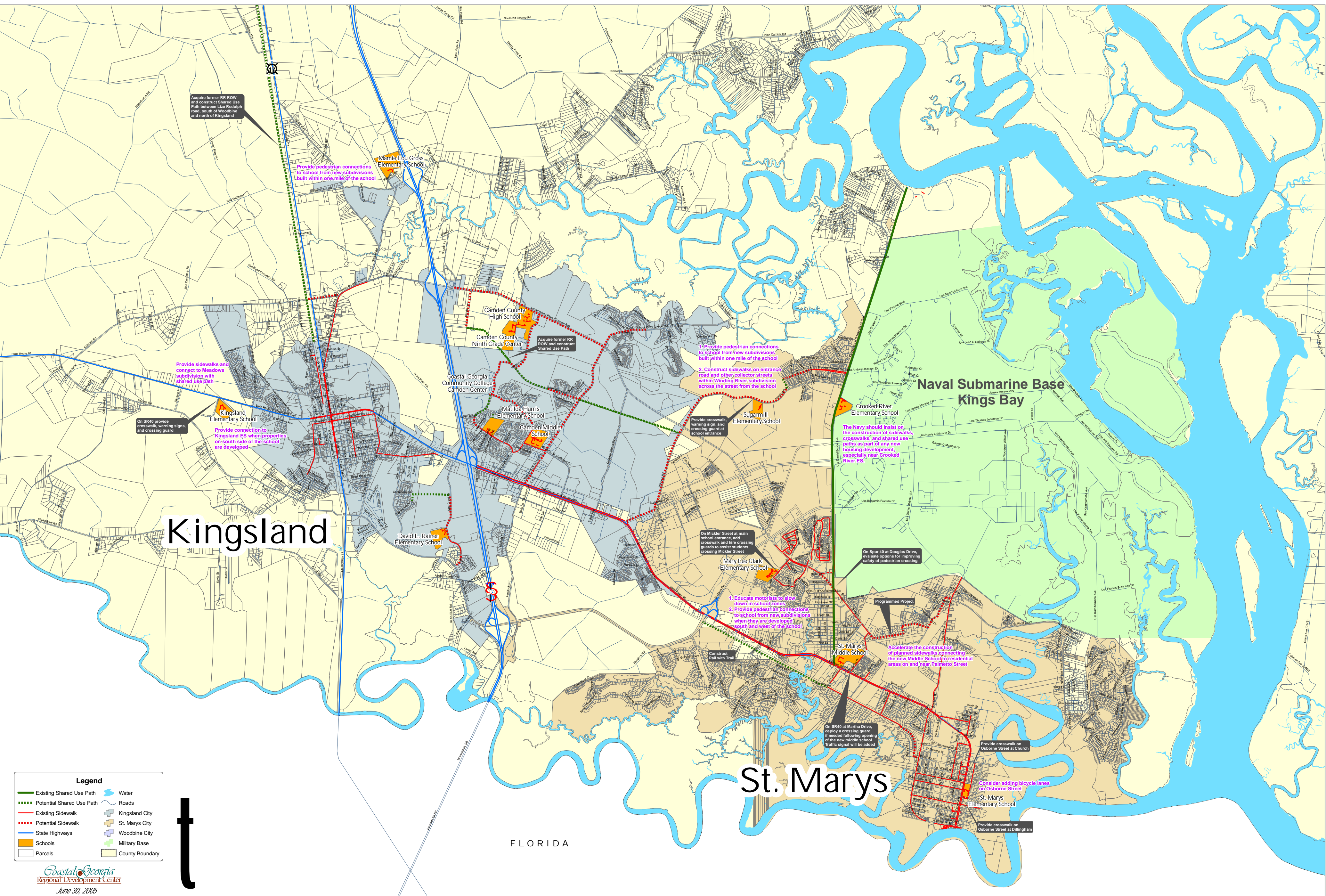
The existing sidewalk on Broadwood Drive at Woodbine Elementary School could be extended to connect to Satilla River Estates.

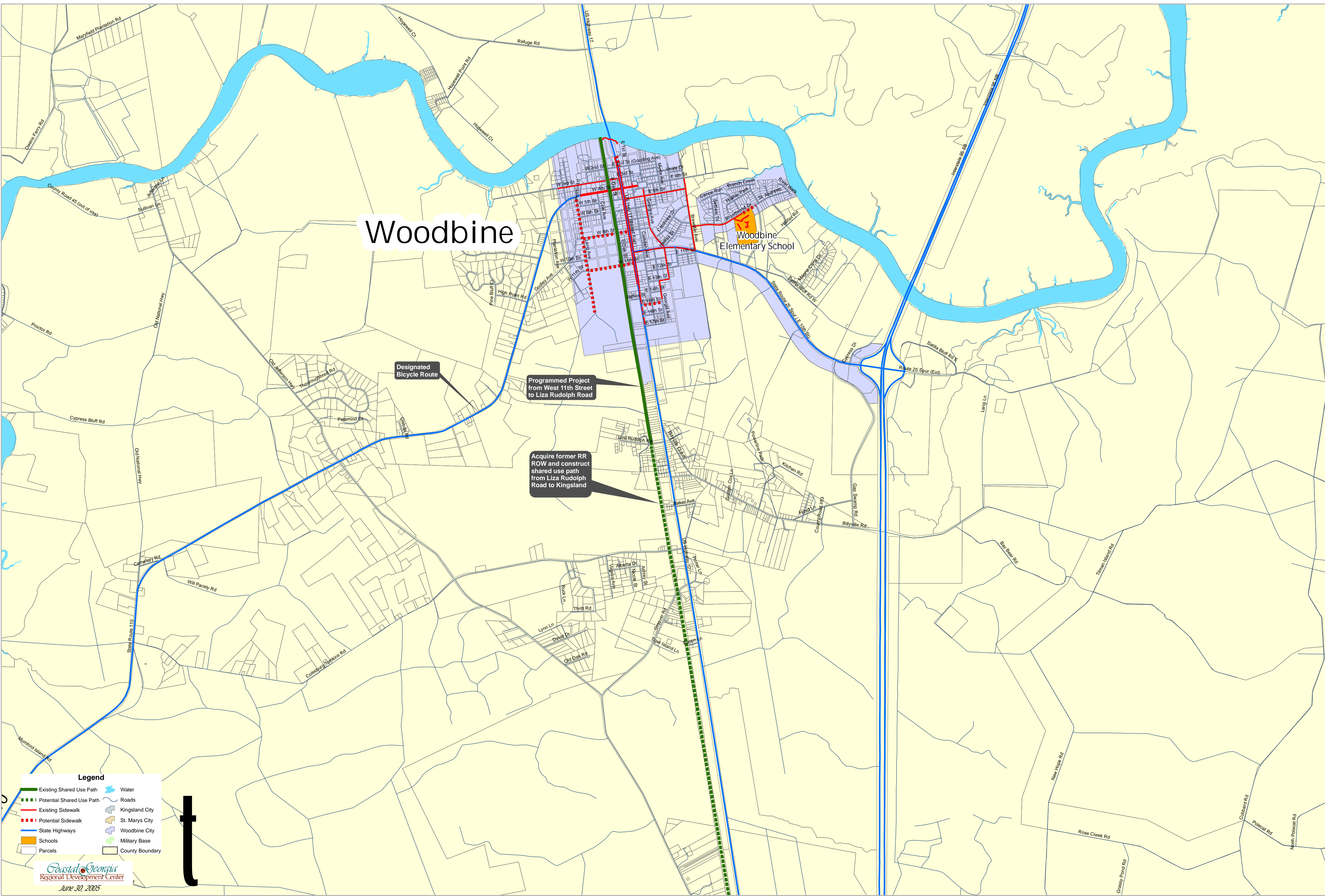


Bikes at Mary Lee Clark Elementary School (left). The rolling stop sign (above) is deployed by the school custodian to slow motorists on Mickler Drive during school begin and end times.



Kingsland Elementary located on SR 40 could be linked to nearby residential developments by requiring sidewalk and path connections in new developments and creating a safe crossing of the highway.





Chapter 4

Additional Sidewalks and Shared Use Paths

This chapter provides recommendations where additional sidewalks and shared use paths are needed beyond those described in Chapter 3 Safe Routes to School. These projects will also improve the safety and mobility of the pedestrians and bicyclists. The sidewalk projects together with those recommended in Chapter 3 will provide a sidewalk network in most of the urban areas of Kingsland, St. Marys, and Woodbine.

Additional Sidewalks

Kingsland

A meeting with the Kingsland Planning Director was held on June 2, 2005 to discuss pedestrian and bicycle improvements. Four sidewalk projects were identified in the *Camden County Comprehensive Transportation Plan*:

- Citywide
- Boone Street
- Greentree
- N17 (TE)

Future SPLOST monies were identified as the funding source for these projects.¹

The following additional sidewalk projects in Kingsland are recommended:

- Construct sidewalk on Laurel Island Parkway from I-95 to Gross Road
- Construct sidewalk on Gross Road from SR 40 to Laurel Island Parkway
- Construct sidewalk on Laurel Island Road from Gross Road to Laurel Marsh Way
- Construct sidewalk on Winding Road from SR 40 to Sugarmill Elementary School

Woodbine

In a meeting with Sandy Rayson on June 2, 2005, pedestrian and bicycle improvements were identified for several locations in town:

- Extend sidewalk on east side of Highway 17 from East 2nd Street to East 1st Street with connection to river
- Construct sidewalk on East 15th Street from Highway 17 to Georgia Avenue
- Construct sidewalks on Lang Avenue, West 8th and West 11th Avenues to serve existing and future residential developments in the southwestern part of the city

St. Marys

A meeting with the St. Marys Public Works Director was held on June 7, 2005 to discuss bicycle and pedestrian facilities. The City of St. Marys has constructed portions of a 10-ft wide brick walk on the south side of West St. Marys Street. This brick and tabby sidewalk cost about \$100

¹ Camden County Comprehensive Transportation Plan, Table 5.7, JJG, 2004.

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per linear foot and was financed through the Transportation Enhancement (TE) program. The walkway narrows to 8-ft wide at its western end. Plans have been prepared to continue the project on the west side of the street to West Ashley Street by widening the existing 5 ft wide sidewalk.

The following additional sidewalk project is recommended:

- The existing sidewalk on Borrell Blvd needs to be extended to West Ashley Street and connected to the West St. Marys Street facility described above.

County

Some short segments of the sidewalk projects mentioned earlier may fall within the County jurisdiction. Also, the following project are recommended in the County:

- Construct a sidewalk on Colerain Road between Highway 17 and MLK Blvd.

Additional Shared Use Paths

There are two significant abandoned railroad corridors in Camden County. The east- west corridor begins west of Spur 40 in St. Marys and ends west to the vicinity of Highway 17 in Kingsland. The north-south corridor begins at the northern city limits of Kingsland and continues north to Woodbine and then on to Glynn County and points further north..

The RDC study team performed research on the property ownership for both former railroad corridors in Camden County. The property ownership data are provided in Appendix B. Former railroad land is largely privately owned in both cases.

An active rail corridor provides an option for trail development (rail with trail) in St. Marys where the parallel SR 40 is not considered a safe cycling route by the BPAC.

Abandoned Rail Corridors

The north-south corridor is comprised of linear parcels the width of the former railroad right-of-way (ROW). Woodbine is in the process of constructing a shared use path within the abandoned railroad right-of-way west of Highway 17. Phase I from the Satilla River south to West 4th Street was completed some time ago. Construction of Phase II from West 4th Street to West 11th Street is nearly complete. P&A Engineering has designed the project, which is funded under the Transportation Enhancement (TE) program, administered by GDOT. Phase III, which has not yet started, will be an unpaved trail from West 11th Avenue south to Liza Rudolph Road. The latter phase may be constructed by a state prison detail out of Folkston.

The east-west corridor differs from the north-south corridor in that it is absorbed into large private parcels that had adjoined the former rail property. A summary of property ownership data for the north-south and east-west corridors is provided in Appendix B.

In consultation with the BPAC, the following shared use path projects are recommended in each corridor.

1. Acquire former railroad ROW and construct shared use path in north-south corridor between Woodbine and Kingsland.

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2. Acquire former railroad ROW and construct shared use path in east-west corridor between Gross Road and Winding Road.
3. Acquire former railroad right-of-way and construct shared use path in east-west corridor from west end of Lakes Blvd East to Wildcat Drive.
4. Acquire former railroad right-of-way and construct shared use path in east-west corridor from Lakes Blvd to Bessie Lane.



Abandoned railroad at Gross Road, looking east



Abandoned railroad, Lakes Subd., looking west

The remainder of the east-west corridor (not covered by items 2 – 4 above) is not considered a viable option for a shared use path. The segment east of Winding Road is not considered viable because it terminates short of Spur 40 where the railroad joined a still active railroad that runs into Naval Submarine Base Kings Bay. The segment from Bessie Lane west to Highway 17 is not considered viable because of the need to cross Interstate 95. The feasibility of the north-south corridor, north of Woodbine, needs to be explored as a separate study.

Active Rail Corridor

During the public meeting and in discussions with the BPAC, concern over the safety of cyclists traveling on SR 40 into St. Marys was expressed. Earlier in this chapter, the City of St. Marys project to extend the West St. Marys Street sidewalk/path and the need to connect this facility to Borrell Boulevard was noted. Borrell Boulevard has traditionally been noted as a bicycle route into and out of town. One option to sending cyclists out SR 40 is to construct a rail-with-trail project from the west end of Borrell Boulevard to St Marys Road along the St Marys Rail corridor.

The following is recommended:

- Conduct a separate feasibility study for the construction of Rail with Trail from St. Marys Road to City Smitty Drive.

Chapter 5

Roadway Projects

This chapter describes planned roadway widening projects where paved shoulders would be provided and additional roadways where paved shoulders are recommended. Planned roadway projects are those that involve widening roads from 2 to 4 lanes, and where four-foot wide (minimum) shoulders should be provided as part of the projects. Additional roadway projects are existing roads where additional travel lanes are not planned, but four-foot wide paved shoulders are recommended to improve bicycle and motorist operation and safety.

Planned Roadway Projects

This section presents a list of roadway widening projects recommended in the Camden County Comprehensive Transportation Plan prepared by Jordan Jones and Gouling Inc. and adopted by the Camden County Board of Commissioners in August 2004. The first is a short-term (0-5 years) project, while the last four are listed as long-range (20 year) projects. All five-roadway projects, Gross Road, Laurel Island Parkway, SR 40 west of Highway 17, Douglas Drive, and Harriet's Bluff Road involve widening from 2 to 4 travel lanes. Accommodations for pedestrians and bicyclists are needed on these roadways and should be incorporated in the roadway projects as described below.

1. Gross Road (SR 40 to Laurel Island Parkway) – include 4-ft wide paved shoulders on each side of the road for improved motorist and bicycle operation and safety. Also construct 5-ft wide sidewalk.
2. Laurel Island Parkway/Colerain Road (SR 40 to Spur 40) – include 4-ft wide paved shoulders on each side of the road for improved motorist and bicycle operation and safety. Construct 5-ft wide sidewalk.
3. SR 40 (west of Highway 17) – include 4-ft wide paved shoulders on each side of the road for improved motorist and bicycle operation and safety.
4. Douglas Drive (Spur 40 to Point Peter Road) – include 4-ft wide paved shoulders on each side of the road for improved motorist and bicycle operation and safety.
5. Harrietts Bluff Road (I-95 to Sheffield Island) – include 4-ft wide paved shoulders on each side of the road for improved motorist and bicycle operation and safety.

Additional Roadway Projects

Accommodations for bicyclists and pedestrians are inadequate on many existing roads. This is especially problematic on Highway 17, designated as State Bicycle Route 95 and an important tourism corridor. The *Coastal Georgia Regional Bicycle and Pedestrian Plan* (adopted May 11, 2005) recommends the construction of 4-ft paved shoulders on Highway 17, including a portion in Camden County. The local governments in Camden County support that recommendation as well as a study to determine the feasibility of constructing a rail-to-trail project in the abandoned rail corridor from north of Kingsland to Riceboro. Wide travel lanes are recommended on Highway 17 in downtown areas of Woodbine and Kingsland.

Table 7 lists existing roads where 4-ft wide paved shoulders are recommended. The Bicycle and Pedestrian Advisory Committee (BPAC) recommended these corridors for improvement in meetings held in April – June 2005. These 'add shoulder' projects develop connections with the

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planned roadway projects where shoulders should be added as part of the road-widening project and shared use path projects including several rail trails described earlier in previous chapters. Together they form a Camden County Bikeway System (see Maps 3 and 4).

Table 7
Add Shoulder Projects

Corridor Name	Project Limits	Length (miles)	Recommendations
Highway 17 Corridor	Highway 17 (Except in downtown area of Kingsland where wide travel lanes are recommended)	39.0	4-ft wide paved shoulders
Vacuna – Scrubby Bluff Corridor	Vacuna Road (SR40 to Highway 17)	4.8	4-ft wide paved shoulders
	Scrubby Bluff Road (East of Highway 17 to I-95)	2.8	4-ft wide paved shoulders
St. Marys Corridor	St. Marys Road (I-95 to Spur 40)	5.5	4-ft wide paved shoulders
Harrietts Bluff Corridor	Harrietts Bluff Road (East of I-95, From Sheffield Island Road to Four Shanties Road)	3.8	4-ft wide paved shoulders
	Harrietts Bluff Road (West of I-95 to Highway 17)	1.6	4-ft wide paved shoulders
Gross – Haddock Corridor	Haddock Road (South of SR40 to St. Marys Road)	1.9	4-ft wide paved shoulders
Dover Bluff – Springfield Connector	Dover Bluff Road (Highway 17 to Springfield Road)	0.2	4-ft wide paved shoulders
	Springfield Road (Dover Bluff Road to Horse Stamp Church Road)	3.6	4-ft wide paved shoulders

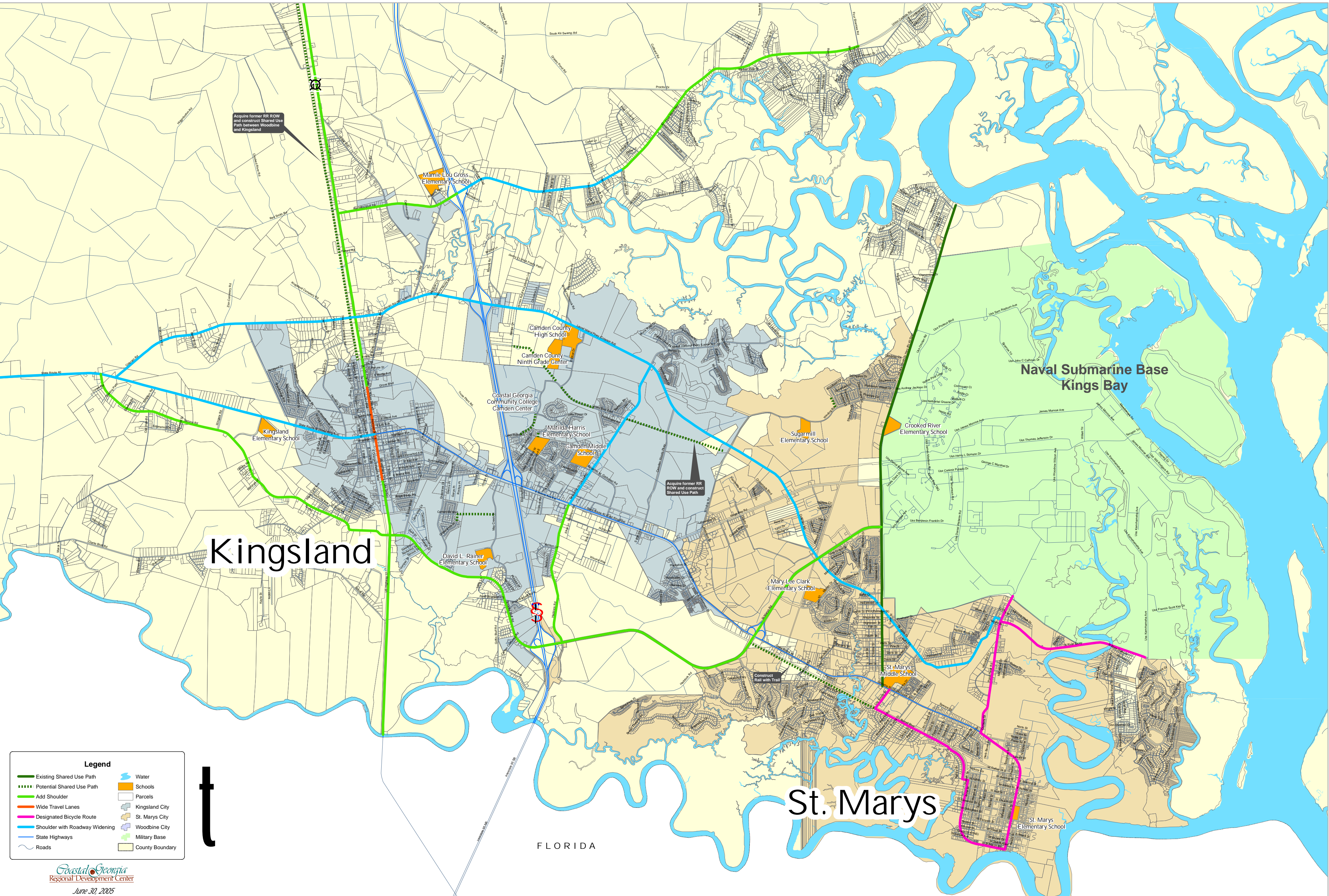
Map 3 and 4 show another bikeway category called ‘designated bike route’. These roads are recommended as signed bike routes and are generally have low to moderate traffic speeds and volumes. There are two designated bike route corridors: a St. Marys Bike Route and State Route 110.

The St. Marys Bike Route originates from SR 40 in St. Marys and follows City Smitty Drive, Borrell Boulevard, Dilworth Street, Osborne Street, SR 40 and then turns north on Point Peter Road and ends at the Naval Submarine Base Kings Bay. The bike route also runs on the North River Causeway from Point Peter Road to the USS Kamrhamaha Avenue, outside of the Naval Submarine Base.

The SR110 Bike Route Corridor begins at Highway 17 in Woodbine, runs southwest, and ends at SR 40 near the Charlton County line.



Map 3: Bicycle Facilities



Map 4: Bicycle Facilities

Chapter 6

Development Regulations and Design Guidance

This chapter discusses the need to address bicycle and pedestrian access and accommodations in new development and general guidance on the design of bicycle and pedestrian facilities.

Development Regulations

The zoning ordinances, subdivision regulations and site plan review regulations for Camden County, City of Kingsland, City of Woodbine, and the City of St. Marys do not adequately address bicycle and pedestrian access and accommodations in new development. At the May 10, 2005 public meeting and at meetings of the Camden County Bicycle and Pedestrian Advisory Committee, residents offered the following suggestions:

- connect cul-de-sacs in adjacent subdivisions with shared use paths
- provide bicycle and pedestrian connections to nearby schools (those within the 1.5 mile radius where bus service is not provided), recreation facilities and other trip attractors
- provide sidewalks in new subdivisions at least on collector streets

Metroplan Orlando (Florida) prepared a Pedestrian and Bicycle Planning and Design Best Practices Resource Guide to assist local governments in their area with the preparation and amendment of development codes and zoning ordinances that will improve conditions for bicycling and walking as modes of transportation. This document is provided in Appendix C and can be located at:
http://www.metroplanorlando.com/site/upload/documents/bikeped_best_practices.pdf

Design Guidance

Some guidance on the design of bicycle and pedestrian facilities is provided in local development regulations, but it is not comprehensive or necessarily consistent with industry standards. It is recommended that Camden County, and the cities of Kingsland, Woodbine, and St. Marys review their current design guidance for pedestrian and bicycle accommodations both in local public works projects and in public streets and paths being built in new subdivisions. For the most part, the four local governments can reference and use existing design guidance, including:

Pedestrian and Streetscape Guide, Otak, Inc., September 2003
prepared for the Georgia Department of Transportation and available on their website at:
<http://www.dot.state.ga.us/dot/plan-prog/planning/projects/bicycle/index.shtml>

Street Design Guidelines for Healthy Neighborhoods, Dan Burden, January 2002
<http://www.lgc.org/transportation/street.html>

The industry standards for the design of bicycle facilities, roads and traffic control devices are:

Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Facilities (AASHTO), 1999

A Policy on Geometric Design of Highways and Streets, AASHTO, 2001

Manual on Uniform Traffic Control Devices (MUTCD), ATSSA/ITE/AASHTO, 2001

Design specifications for bicycle lanes, signing and pavement markings are included in these documents.

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Adequately designed paved roadway shoulders are useful operating space for bicycles and allow motorists to safely pass without leaving the adjacent travel lane. Paved roadway shoulders have other uses:

- Space is provided for motorists to stop out of traffic in case of mechanical difficulty or other emergency
- Space is provided to escape potential crashes
- Sight distance is improved in cut sections
- Highway capacity is improved
- Space is provided for maintenance operations
- Lateral clearance is provided for signs and guardrails
- Storm water can be discharged farther from the pavement
- Structural support is given to the pavement¹

For these reasons, paved shoulders should be provided on arterial and collector roads.

¹ *Oregon Bicycle and Pedestrian Plan*, Oregon DOT, 1995 (page 67)

Chapter 7

Summary of Recommendations

This chapter provides a list of bicycle and pedestrian facility projects recommended in the Camden County Bicycle and Pedestrian Plan (see Tables 8-10). The tables list:

- Sidewalk and Shared Use Path Projects for Safe Routes to School (as described in Chapter 3)
- Additional Sidewalk and Shared Use Path Projects (as described in Chapter 4)
- Add Shoulder Projects (as described in Chapter 5)

These are unique projects which are called for in this plan. Bicycle and pedestrian accommodations provided as part of planned roadway projects are not listed in these tables or included in the cost of this plan.

Order-of-magnitude (OM) construction cost estimates are provided for the projects listed in Tables 8-10. These are based on the following average unit costs:

\$50,000 per mile ¹	Adding 4-ft paved shoulders (both sides) to an existing road (assuming graded stable shoulders in place)
\$79,200 per mile ²	Adding concrete curbs and sidewalks
\$150,000 per mile ³	Constructing 12-ft wide bituminous concrete shared use path on new location

The construction cost may vary significantly based on actual roadway and corridor conditions. The OM construction cost estimates do not include structures, right-of-way acquisition, survey or engineering costs. More accurate construction and right-of-way costs will be determined during project design.

Potential funding categories are listed for each project and include:

- Safe Routes to School (SR2S) – new set-aside in the federal Surface Transportation Program approved by Congress on August 1, 2005
- Transportation Enhancement (TE) – program administered by Georgia Department of Transportation
- SPLOST – Special Purpose Local Option Sales Tax
- GDOT – state and federal highway funds administered by GDOT

Recommendations for non-facility projects and programs are provided throughout the plan.

¹ Camden County Comprehensive Transportation Plan, Jordan, Jones and Goulding, August 2004 (Appendix A, page 35).

² PEDSAFE: Pedestrian Safety Guide and Countermeasure Selections, UNC Highway Safety Research Center, 2004 (page 52).

³ Camden County Comprehensive Transportation Plan (Appendix A, page 35).

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The total estimated OM construction costs for all the recommended facility projects listed in Tables 8-10 is \$6.25 million broken down as follows:

1. Safe routes to school projects (mostly sidewalk projects) – about \$500,000
2. Additional sidewalk and shared use path projects – about \$2.6 million
3. Roadway shoulder projects – about \$3.15 million

Following adoption of the Camden County Bicycle and Pedestrian Plan by Camden County, and the cities of Kingsland, Woodbine, and St. Marys, the local governments should apply for funding from the following sources:

for item 1 – The new Safe Routes to School program included in Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU)

for the rail trail projects included in item 2 – Transportation Enhancement program administered by GDOT

for shoulder improvements to Highway 17 included in item 3 – GDOT state and federal highway funds

for other projects - SPLOST

A summary of the bicycle and pedestrian provisions of the new federal surface transportation bill SAFETEA-LU is provided in Appendix D and can be located at:

<http://www.americabikes.org/images/resource/SAFETEA%20LU.pdf>

Table 8
Sidewalk and Shared Use Path Projects for Safe Routes to School

Jurisdiction	Road Name	Length (miles)	Project Type	Limits	Construction Cost (\$)	Funding Source
Kingsland	On easement (To be obtained from Soncel company)	0.38	Shared use Path	From north of Lake Palms Drive to Charles Gilman/Lakes Blvd intersection.	57,000	SR2S
Kingsland	On easement (To be obtained)	0.05	Shared use Path	Linking the end of the cul-de-sac on Lake Forest Drive South to the rear of Matilda Harris ES	7,500	SR2S
Kingsland	On easement of electric transmission corridor	0.62	Shared use Path	From May Creek Drive west to Centerville Blvd with spur to end of cul-de-sac on Greenacres Drive	93,000	SR2S
Kingsland	Charles Gilman Jr. Ave.	0.73	Sidewalk	From north corner of Camden Middle School to Lakes Blvd.	57,816	SR2S
Kingsland	The Lakes Blvd	0.18	Sidewalk	From Lake Ashley Drive to Lake Palms Drive	14,256	SR2S
Kingsland	The Lakes Blvd	0.72	Sidewalk	From north of Charles Gilman Jr. Ave. to the intersection of Wildcat Drive and Lakes Blvd. East	57,024	SR2S
Kingsland	Wildcat Drive	0.82	Sidewalk	From Lake Blvd East to Laurel Island Parkway	64,944	SR2S
Kingsland	May Creek Drive	0.56	Sidewalk	From David Rainer ES north to the electric transmission corridor	44,352	SR2S
Kingsland	May Creek Drive	0.17	Sidewalk	From Cambridge Circle south to Harvard Court	13,464	SR2S
Woodbine	Broadwood Drive	0.12	Sidewalk	From Woodbine ES to Pine Forest Drive at entrance to Satilla Landing	9,504	SR2S
St. Marys	East Dillingham Street	0.08	Sidewalk	From Osborne Street to Ready Street adjacent to school	6,336	SR2S
St. Marys	Plantation Village Drive	0.5	Sidewalk	Extend sidewalk from Cherry Point Circle to western terminus of Plantation Village Drive and over the ditch, further down along west side of drainage ditch to Winding Road	39,600	SR2S
St. Marys	Winding Road	0.51	Sidewalk	From drainage ditch on Winding Road west to the entrance of Sugar Mill ES.	40,392	SR2S
TOTAL		5.44			505,188	

Source: Computed by CGRDC Staff, 2005

Table 9
Additional Sidewalk and Shared Use Path Projects

Jurisdiction	Road Name	Length (miles)	Project Type	Limits	Construction Cost (\$)	Funding Source
Woodbine	East side of US 17	0.10	Sidewalk	From East 2 nd Street to East 1 st Street with connection to river	7,920	SPLOST
Woodbine	East 15 th Street	0.09	Sidewalk	From US 17 to Georgia Avenue	7,128	SPLOST
Woodbine	Lang Avenue	0.99	Sidewalk	From West 4 th Street to almost end of Lang Ave.	78,408	SPLOST
Woodbine	West 8 th Avenue	0.37	Sidewalk	From Lang Avenue to West of US 17.	29,304	SPLOST
Woodbine	West 11 th Avenue	0.37	Sidewalk	From Lang Avenue to West of US 17.	29,304	SPLOST
St. Marys	Borrell Blvd.	0.56	Sidewalk	Extend the existing sidewalk on Borrell Blvd to West Ashley Street and then to Dilworth Street on West Ashley Street.	44,352	SPLOST
Kingsland, St. Marys	Kings Bay Rd.	0.46	Sidewalk	State Route 40 to Winding Road	36,432	SPLOST
Kingsland, St. Marys	Winding Rd.	2.92	Sidewalk	Kings Bay Rd. to Sugar Mill ES	231,264	SPLOST
Kingsland, County	Rail to Trail	1.43	Shared use path	Winding Road to Gross Road	214,500	TE
	Lakes Blvd East	0.31	Sidewalk	Gross Rd. to dead end at west end	24,552	
	Rail to Trail	0.52	Shared use Path	From end of The Lakes subdivision to the intersection of Wildcat Drive.	78,000	
	Rail to Trail	0.89	Shared use path	Lakes Blvd. To Bessie Lane	133,500	
	Bessie Lane	0.50	Sidewalk	All of Bessie Lane	39,600	
County	Rail to Trail	8.90 ¹	Shared use path	Kingsland to Woodbine	1,335,000	TE
St. Marys	Rail to Trail	1.97	Shared use path	St. Marys Rd. to City Smitty Dr.	295,500	TE
TOTAL		20.38			2,584,764	

Source: Computed by CGRDC Staff, 2005

¹ Mileage is total between Woodbine and Kingsland city limits and includes part of active rail corridor

**Table 10
Add Shoulder Projects**

Jurisdiction	Road Name	Length (miles)	Project Type	Limits	Construction Cost (\$)	Funding Source
<i>County, Woodbine, Kingsland</i>	Highway 17 Corridor	39.0	Shoulder	Highway 17 (Except in downtown area of Kingsland where wide travel lanes are recommended)	1,950,000	GDOT
<i>County, Kingsland</i>	Vacuna – Scrubby Bluff Corridor	4.8	Shoulder	Vacuna Road (SR40 to Highway 17)	240,000	SPLOST
		2.8	Shoulder	Scrubby Bluff Road (East of Highway 17 to I-95)	140,000	SPLOST
<i>County, St. Marys</i>	St. Marys Corridor	5.5	Shoulder	St. Marys Road (I-95 to Spur 40)	275,000	SPLOST
<i>County, Kingsland</i>	Harrietts Bluff Corridor	3.8	Shoulder	Harriet’s Bluff Road (East of I-95, From Sheffield Island Road to Four Shanties Road)	190,000	SPLOST
		1.6	Shoulder	Harriet’s Bluff Road (West of I-95 to Hwy 17)	80,000	SPLOST
<i>County, Kingsland</i>	Gross – Haddock Corridor	1.9	Shoulder	Haddock Road (South of SR40 to St. Marys Road)	95,000	SPLOST
<i>County</i>	Dover Bluff – Springfield Connector	0.2	Shoulder	Dover Bluff Road (Highway 17 to Springfield Road)	10,000	SPLOST
		3.6	Shoulder	Springfield Road (Dover Bluff Road to Horse Stamp Church Road)	180,000	SPLOST
TOTAL		63.2			3,160,000	

Source: Computed by CGRDC Staff, 2005

**Appendix A
Meeting Notes**

Camden County Bicycle and Pedestrian Plan

Camden County Bicycle and Pedestrian Advisory Committee

2:00 PM, April 14, 2005
Camden County School Administrative Services
#75 Paw Print Trail
Camden County

Persons Present

Peggy L Kennedy, Camden County Recreation Center
Roger McDonald, Transportation Coordinator, Camden County Schools
Max Tinsley, Planning Director, City of St. Marys
Celenda Perry, Executive Director, Camden Children Alliance and Resources
Terry Landreth, Turn 2 Bicycle Center, Inc., Kingsland
Chuck Walker, President, Team Camden Cycling
Mark Stewart, Director, Administrative Services, Camden County Schools
Matthew S. LeCerf, Community Planning and Development Director, Kingsland

Staff Present

Mushtaq Hussain

MEETING NOTES

Introductory Comments

Mushtaq Hussain welcomed everyone to the meeting and explained that Paul Smith, Planning Director, was unable to attend due to illness. Mushtaq reviewed the agenda s and discussed the role and purpose of the Bicycle and Pedestrian Advisory Committee in the preparation of the Camden County Bicycle and Pedestrian Plan. He informed the members that the RDC has also been working on the Coastal Georgia Regional Bicycle and Pedestrian Plan, which is near completion and will be submitted to our board of directors for adoption in May.

Bicycle and Pedestrian Crash Analysis

Mushtaq explained that the RDC has obtained crash reports from the St. Marys Police Department, the Kingsland Police Department, and the Georgia State Patrol and is using PBCAT (Pedestrian and Bicycle Crash Analysis Tool), software provided by the University of North Carolina Highway Safety Research Center. The RDC has been entering the crash reports and developing a database to analyze the information. Mushtaq distributed a hand out showing motor vehicle/pedestrian crashes compiled in a table. There were 12 injury crashes and 2 fatality crashes involving motor vehicles and pedestrians in Camden County during since 2002. Most of these crashes occurred in St. Marys. The majority of these crashes occurred on the local roads with fewer on the state routes. The information on motor vehicle/bicycle crashes has not been compiled yet.

Camden County Bicycle and Pedestrian Plan

Abandoned Railroad Corridors

The RDC staff performed research on the property ownership of the east-west and the north-south abandoned railroad corridors. The east-west corridor begins in St Marys near Spur 40 and runs west, ending at Highway 17, north of the Kingsland city limits. The north-south corridor begins at the northern city limits of Kingsland and runs north to Woodbine and Waverly. This abandoned rail corridor extends to Riceboro in Liberty County. A hand out was distributed in the meeting. Mushtaq asked the committee to assist the RDC in conducting a meeting with the property owners to explore the possibility of obtaining easements for shared use paths in the abandoned railroad right-of-ways.

Safe Routes to School

Mushtaq mentioned that he and Paul Smith met with Mark Stewart, Director of Administrative Services, Camden County Schools, on April 4, 2005 to discuss bicycle and pedestrian access to the 12 public schools in Camden County. So far the RDC has visited three schools and conducted field investigations of access routes and related safety issues. The RDC will complete the evaluation of the remaining schools and develop recommendations for safety and access improvements.

Zoning and Subdivision Regulations

Mushtaq distributed a handout, which showed the provision of bicycle and pedestrian facilities in the zoning and sub-division regulations of the City of St. Marys, Kingsland, Woodbine and the County. Most of these regulations do not require the land developers to provide any bicycle and pedestrian facilities.

Comment Period

- A BPAC member highlighted the roads where people have been riding bicycles and roads where they would like to bike but currently consider unsafe.
- SR 40 is not safe for bicycling.
- Provide connection to the Galligan Island Park in St. Marys.
- Provide connection from the Meadows Subdivision to Kingsland Elementary School.
- Develop a connection via path from the Green Acres Subdivision to David L. Ranier Elementary School.
- Rumble strips are generally a big problem for cyclists.
- Motorists should be educated to share the road with cyclists.
- Matt LeCerf offered to assist the RDC in arranging the landowners meeting.

Adjournment

The meeting adjourned at 4:00 PM.

Camden County Bicycle and Pedestrian Plan

Camden County Bicycle and Pedestrian Advisory Committee

2:00 PM, April 27, 2005
Woodbine City Hall

Persons Present

Peggy L Kennedy, Camden County Recreation Center
Max Tinsley, Planner, City of St. Marys

Staff Present

Mushtaq Hussain
Paul Smith

MEETING NOTES

Paul Smith welcomed everyone to the meeting and explained that this meeting is to explore the possibility of obtaining trail easements from the property owners of the east-west and the north-south abandoned railroad corridors in Camden County.

The RDC sent a letter to 25 different landowners and invited them to the meeting. One person contacted Paul by phone, Mr. Will Varn whose family owns portions of the former rail corridor north of Woodbine. They purchased portions of the rail right-of-way (ROW) and use it for hauling rock from their quarries on abutting land. For this reason, they believe this segment of the former rail corridor is unsuitable for trail development. He also pointed out that hunting clubs lease property in and near the corridor, which could be considered incompatible with trail use.

Paul and Mushtaq presented a map of the east-west railroad corridor showing parcels through which the corridor travels. The north-south rail corridor consists of narrow parcels the width of the rail ROW that are now owned by various parties. The City of Woodbine owns substantial length of the corridor and has existing and planned rail trail segments. On the other hand, the former east-west railroad ROW has been incorporated into adjoining properties. This corridor crosses Interstate 95. The railroad was abandoned prior to the construction of I-95 so there is no existing grade separation.

Max Tinsley contributed to the discussion stating that the abandoned east-west railroad merges with an active railroad near Kings Bay and this would present difficulties for trail development. Other parcels near south of Sugar Mill Elementary School are being developed for residential use. A trail could be included in the plans of these new subdivisions. Segments of the abandoned railroad corridor such as a segment between Gross Road and Winding Road and a segment between Gross Road and Wildcat Drive are potentially developable for bicycle and pedestrian use.

Adjournment

The meeting adjourned at 2:30 PM.

Camden County Bicycle and Pedestrian Plan

PUBLIC MEETING

May 10, 2005
Camden County Recreation Center
1050 Wildcat Drive, Kingsland, Georgia

Persons Present

Junko V. Byrd, resident, Kingsland
Tony Sprinkle, resident, St. Marys
Michael Perry, Lawyer, St. Marys
Gordon Jackson, Reporter, *Florida Times Union*
George Tadeurak, St. Marys
Chris Daniel, President, Camden Kings Bay Chamber of Commerce
Walt Natzi, President, Camden Partnership
Alyce Thomhill, Director, St. Marys DDA
Ridge Harper, resident, Camden County
Dave Smith, News Director, WKBX-FM
Diana Smith, County Clerk, Camden County
William Clark, Team Camden Cycling
John Pritt, Vice President, Team Camden Cycling
Mary Turner, resident, St. Marys
Chuck Walker, President, Team Camden Cycling
Bruce Wheeler, Team Camden Cycling
Mark Stewart, Director, Administrative Services, Camden County Schools
MJ Manning, resident, Woodbine
Steve Romine, Executive Director, United Way
Celenda Perry, Executive Director, Camden Children Alliance and Resources
Walt Yourstone, Executive Director, Camden Partnership

Staff Present

Mushtaq Hussain
Paul Smith

MEETING NOTES

Introductory Comments

Paul Smith welcomed everyone to the meeting and explained the background and scope of the Camden County Bicycle and Pedestrian Plan. He summarized the agenda and emphasized the importance of public comments on bicycling and walking conditions and programs. He also mentioned about the analysis of bicycle and pedestrian crashes and the two abandoned railroad corridors in Camden County.

The provision of bicycle and pedestrian facilities in new subdivisions was discussed. He informed the attendees that there is a section on the Bicycle and Pedestrian as an appendix in the Camden County Comprehensive Transportation Plan prepared by Jordon Jones, and Goulding, Inc. and adopted by the County in August 2004.

Camden County Bicycle and Pedestrian Plan

Paul briefly discussed that two-lane sections of Highway 17 are typically 28 feet wide with 12-ft travel lanes and 2-ft paved shoulders. Speed limit is posted at 55 miles per hour (mph). The amount of lateral space for side-by-side operation of motor vehicles and bicycles is inadequate. Overtaking and passing of bicycles can be dangerous in the presence of oncoming vehicles.

He also stresses the importance of enforcing traffic laws, educating motorists to share the road with the cyclists, and encouraging biking and walking through programs such as Walk to School Day.

Mushtaq Hussain presented a map of the east-west abandoned railroad corridor and described the ownership of properties through which the railroad corridor passes.

General Comments

Over one hour of the meeting consisted of public comments. Excerpts of the comments follow:

Richard Harper: People who bicycle on Highway 17 want to ride long distances. Therefore a 4-ft shoulder is a good idea for Highway 17. Provide shared use path connections between Kingsland and St. Marys.

Tony Sprinkle: SR 40 is too dangerous for bicycling. Cyclists are not supposed to be on sidewalks. Provide alternate connection from Highway 17 to St. Marys.

George Tadeurak: Connect back roads with trail corridors and prepare template for subdivision design that includes bicycle and pedestrian provisions.

M.J. Manning: Provide bicycle facility on Harriet's Bluff, Highway 17, and Colerain Road. SR110 is a narrow road for biking.

Chuck Walker: People do not feel safe riding bicycles to go explore many points of interests.

June Berg: Charles Gillman Jr. Road is a congested road, which needs widening and improvements for bicycling and walking.

Celenda Perry: Provide shaded path corridors due to heat, link residences to libraries and parks in each city preferably in a loop system. There is low income housing along Gross Road, where additional sidewalks are needed including connections to recreational resources.

John: Highway 40 (Osborne Street) in St. Marys needs paved shoulders.

Bruce: East-west railroad corridor will have very high utility for bicycling.

Chris Daniel: Sidewalks along Spur 40 near Kings Bay Naval Submarine Base need maintenance.

Camden County Bicycle and Pedestrian Plan

Specific Comments

- Provide a network of bicycle and pedestrian facilities that allow a safe place for cyclists and pedestrians.
- Children are willing to ride bicycles to schools if there is continuity in the design of bicycle facilities.
- Obesity is a problem especially in middle school children.
- Rumble strips at the intersection of Colerain and Highway 17 are the worst in the entire community.
- Motorists do not know how to share the road with bicycles. We need to put a question or two on the drivers test.
- Emphasize more bicycle and pedestrian safety in the schools. The Bus Safety Program is in place and is conducted once on a quarterly basis.
- Provide bicycle and pedestrian facilities to improve public health and promote an active lifestyle.
- Encourage the developers to provide the connections from new subdivisions to schools.
- Develop or amend ordinances so that new developments are required to provide bike and pedestrian accommodations.
- Provide 4-ft wide paved shoulders when roads are widened.
- Senior residents tend to ride bicycles within subdivisions. Terry Landreth stated that Ms. Liz who is 67 years old and has ridden thousands of miles on her bicycle without ever leaving the Osprey Cove Subdivision.
- Highway 17 is the worst road for biking in Camden. Provide 4-ft paved shoulders along Highway 17 excluding rumble strips.
- Follow AASHTO guidelines when designing and constructing bicycle and pedestrian facilities.
- Bicycle facilities such as rail to trail and rail with trail alternatives will increase the cycling activities in the County and will enhance and promote tourism.

Next Meeting

The next Bicycle Pedestrian Advisory Committee meeting is scheduled for June 28, 2005. Recommendations will be presented and discussed at this meeting

Adjournment

The meeting adjourned at 4:45 PM.

Camden County Bicycle and Pedestrian Plan

Camden County Bicycle and Pedestrian Advisory Committee

2:00 PM, June 28, 2005
Camden County Recreation Center
1050 Wildcat Drive, Kingsland, Georgia

Persons Present

Terry Landreth, Turn 2 Bicycle Center, Inc., Kingsland
Celenda Perry, Camden Children Alliance and Resources
Trish McMillan, Director, Coastal Georgia Community College, Camden Campus

Staff Present

Mushtaq Hussain
Paul Smith

MEETING NOTES

Paul Smith welcomed everyone and explained the agenda for the meeting.

Paul explained the analysis of motor vehicle/bicycle crashes and motor vehicle/pedestrian crashes and recommended countermeasures. The RDC compiled police reports from the Camden County Sheriffs's Office, the Kingsland Police Department, and the St. Mary's Police Department and found that from 2002 to 2005, there have been a total of 14 motor vehicle/pedestrian crashes which involved 12 injuries and 2 fatalities. During the same period, there were 11 motor vehicle/bicycle crashes which involved 10 injuries and 1 fatality.

He informed the committee that the RDC has developed project recommendations through a series of meetings with the BPAC, Mark Stewart, Director, Administrative Services, Camden County Schools, school principals, city and county managers and planners, and field investigations.

Paul and Mushtaq presented the following three maps:

1. Sidewalks and Shared Use Paths in St. Marys and Kingsland
2. Bicycle Facilities in St. Marys and Kingsland
3. Sidewalks and Shared Use Paths in Woodbine

The school locations, existing and proposed sidewalks and shared use paths were shown on map 1 which provided a network for the Safe Routes to School. Some of the recommendations were to connect cul-de-sacs in subdivisions to schools via shared use paths and develop shared use paths in the transmission and abandoned rail corridors to provide connections from neighborhoods to schools, recreation facilities and other attractions.

Camden County Bicycle and Pedestrian Plan

The RDC recommends constructing rail with trail along a portion of the active railroad in St. Marys. This shared use path runs parallel to the SR40 and begins from St. Marys Road and ends at City Smitty Drive. The feasibility of this project needs to be conducted as a separate study.

Map 2 showed a network of bicycle facilities, which involved new shared use paths, shoulders as part of the planned roadway widening projects, shoulders added to other existing roads, wide travel lanes, and designated bike routes.

Map 3 presented the similar information as Map 1 for Woodbine.

The BPAC suggested the following changes to the recommendations:

- Extend the designated bike route of Point Peter Road in St. Marys to the Naval Submarine Base Kings Bay gate on south side of the base.
- Show existing shared use path along Spur 40 on the map 2 (This is an 8-ft wide sidewalk).
- Add designated bike route on City Smitty Drive.

Overall, the BPAC supported the recommendations and suggested that the RDC should provide these recommended bicycle and pedestrian facilities maps along with the plan to each local government in Camden County for adoption.

Adjournment

The meeting adjourned at 3:00 PM.

Appendix B
Rail Ownership Data

Appendix B

North-South Rail Corridor Ownership from North Kingsland City Limits to Glynn Co. Line

Tax Map No.	Parcel No.	Size (acres)	Owner Name	Address	City	State	Zip
82	None		Seaboard Airline R.R.				
82b	None		Seaboard Airline R.R.				
81	None		Seaboard Airline R.R.				
80	6A	3.43	National Alum Group	8989 HWY 17	Woodbine	GA	31569
80	None		Seaboard Airline R.R.				
79	26	97.00	Durango Paper				
W3	Block 7 Parcel 3	4.60	City of Woodbine	P.O. Box 26	Woodbine	GA	31569
65	33	15.60	City of Woodbine	P.O. Box 26	Woodbine	GA	31569
51	1	4131.65	Varn, Inc	P.O. Box 128	Hoboken	GA	31542
63	52	76.00	Camden County	P.O. Box 99	Woodbine	GA	31569
62	1E	63.97	Atkinson, Samuel C	3707 Richmond St	Jacksonville	FL	32205
61	2B	73.50	Plum Creek Timberlands LP ATTN: Francis Palmer	161 North Macon St	Jesup	GA	31545

Source: Camden County Tax Maps, Compiled by the CGRDC, 2005

East - West Rail Corridor Ownership in Camden County from Spur 40 to Hwy 17

Tax Map No.	Parcel No.	Size (acres)	Owner Name	Address	City	State	Zip
134	13	101.89	Rayland LLC	P.O. Box 1188	Fernandina Beach	FL	32035
134	9	25.59	Griffith, Oliver C	132 Heritage Dr, #A2	St. Simons Island	GA	31522
120	8B	1276.19	Rayland LLC	P.O. Box 1188	Fernandina Beach	FL	32035
120	8E	18.50	Rayland LLC	P.O. Box 1188	Fernandina Beach	FL	32035
120	1	75.00	Tiller, Paulk, Trustee Fam. Trust & Watson, JOA	5039 Timuquana Rd, Apt 29	Jacksonville	FL	32210
120	8	511.46	Rayland LLC	P.O. Box 1188	Fernandina Beach	FL	32035
120	8A	599.09	Rayland LLC	P.O. Box 1188	Fernandina Beach	FL	32035
107	None		Lakes Blvd East		Kingsland	GA	31548
107	5P	63.76	Soncel Homes, Inc.	P.O. Box 3050	Kingsland	GA	31548
107	5J	25.00	City of Kingland	P.O. Box 250	Kingsland	GA	31548
107	5	445.54	Gonzalez-Falla, Sondra G	P.O. Box 3050	Kingsland	GA	31548
106	13	107.11	Brazell, Jeanette P	6194 Laurel Island Pkwy	Kingsland	GA	31548
94	21	138.00	Strickland, Cynthia B & Renee Brazell Norton	P.O. Box 2961	Kingsland	GA	31548
94	22H	9.35	Beavers, Leslie B	4392 E Durham St	Stone Mountain	GA	30083
94	23	110.43	Mullis, Roscoe H & Drury & Benny Gleghorn	P.O. Box 217	Kingsland	GA	31548
94	24	147.40	Beavers, Leslie B	4392 E Durham St	Stone Mountain	GA	30083
94	25	143.90	O'Quinn Family Partnership	1309 Gloucester St	Brunswick	GA	31520
94	26	146.54	Price, Eunice B (Trustee)	3817 High Market St	Pawleys Island	SC	29585
94	None		Unidentified Right of Way				
82C	None		Seaboard Airline R.R.				
82D	None		Seaboard Airline R.R.				
82	8	11.00	Russell, C G c/o Russell, Arlene P	P.O. Box 157	Kingsland	GA	31548

Source: Camden County Tax maps, Copiled by the CGRDC, 2005

Appendix C
Metropolitan Orlando Pedestrian and Bicycle Planning and Design
Best Practices Resource Guide



Pedestrian and Bicycle Planning and Design Best Practices Resource Guide

September 2004

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Purpose of This Guide

*METROPLAN ORLANDO has created this Pedestrian and Bicycle Planning and Design Best Practices Resource Guide to assist local governments with the development of new or alternative land development codes that will improve conditions for walking and bicycling as modes of transportation. The term “**should**” is used throughout this document for most features, measurements and other elements. Local governments can replace “**should**” with “**shall**” where appropriate for their own codes.*

A number of other useful publications are referenced in the Resources section. Many of these documents are included in the CD with this document.

Relationships between Residential, Commercial and Civic Uses

Conventional suburban development is inherently anti-pedestrian and also discourages bicycle travel. By segregating land uses, distances for most trips are beyond what the average pedestrian will make, even with ideal walking conditions.

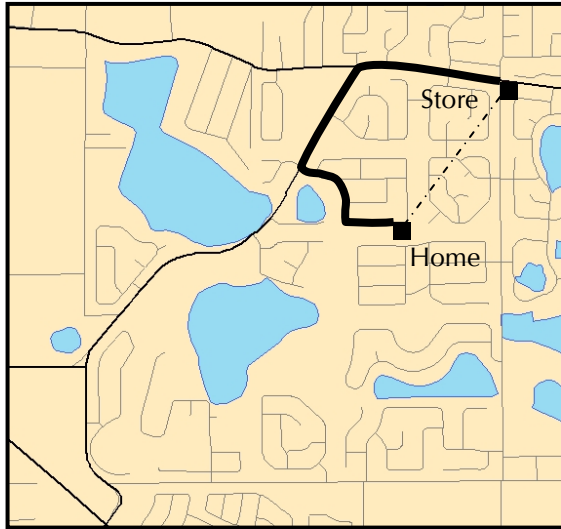
The Congress for the New Urbanism has set out principles for growth and development that shift orientation from the private motor vehicle to walking, transit and bicycling. The second section of the Charter for the New Urbanism states:

The Neighborhood, the District, and the Corridor

1. The neighborhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution.
2. Neighborhoods should be compact, pedestrian-friendly, and mixed-use. Districts generally emphasize a special single use, and should follow the principles of neighborhood design when possible. Corridors are regional connectors of neighborhoods and districts; they range from boulevards and rail lines to rivers and parkways.
3. Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips, and conserve energy.
4. Within neighborhoods, a broad range of housing types and price levels can bring people of diverse ages, races, and incomes into daily interaction, strengthening the personal and civic bonds essential to an authentic community.
5. Transit corridors, when properly planned and coordinated, can help organize metropolitan structure and revitalize urban centers. In contrast, highway corridors should not displace investment from existing centers.
6. Appropriate building densities and land uses should be within walking distance of transit stops, permitting public transit to become a viable alternative to the automobile.
7. Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them.
8. The economic health and harmonious evolution of neighborhoods, districts, and corridors can be improved through graphic urban design codes that serve as predictable guides for change.
9. A range of parks, from tot-lots and village greens to ball fields and community gardens, should be distributed within neighborhoods. Conservation areas and open lands should be used to define and connect different neighborhoods and districts.

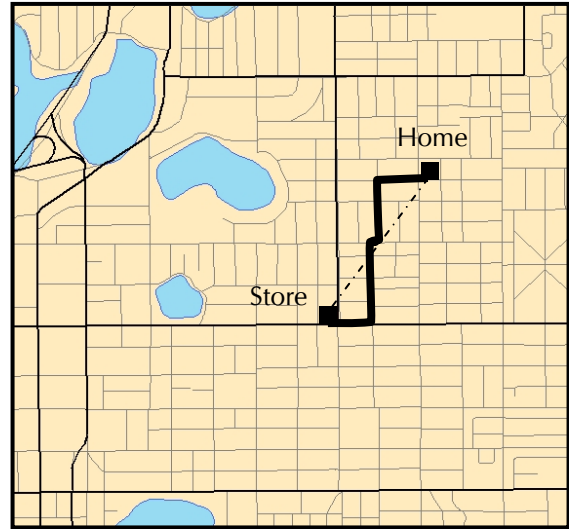
Street Network

The poorly connected street network of conventional suburban development compounds the problem of segregation of uses. Local streets are discontinuous in such networks, forcing all trips onto the collector and arterial streets, further increasing trip distances for pedestrians and bicyclists and shifting more trips to private motor vehicles. The resultant motor vehicle volumes make such collector and arterial streets uncomfortable and/or dangerous for pedestrians and cyclists.



Conventional Suburban Street Network

Square Miles – 2.5
Centerline Street Miles – 34.5
Number of Links – 227
Number of Nodes – 189
Link to Node Ratio – 1.20
Centerline Miles per Sq. Mile – 13.8
Nodes per Square Mile – 75.6
Sample Home-to-Store Trip: 0.5 miles “as the crow flies;” 1.2 miles actual; 64% on collector roads; round-trip walk 53 minutes



Traditional Gridded Street Network

Square Miles – 2.5
Centerline Street Miles – 57.4
Number of Links – 682
Number of Nodes – 443
Link to Node Ratio – 1.54
Centerline Miles per Sq. Mile – 22.9
Nodes per Square Mile – 177.2
Sample Home-to-Store Trip: 0.5 miles “as the crow flies;” 0.75 miles actual; 13% on arterial street; round-trip walk 33 minutes

Cities and towns should strive to provide a higher ratio of nodes (intersections) to links (the sections of streets between adjacent intersections). The example above on the right provides shorter trip distances as well as a variety of route choices for all modes. This is especially important for pedestrians and transit users. On the Conventional Suburban Street Network, nearly all trips must use the collector and arterial streets, which generally have poorer walking or bicycling conditions than the local streets. On the Traditional Gridded Street Network, most trips can be accomplished on local streets.

For a thorough exploration of the benefits of Traditional Gridded Street Networks over Conventional Suburban Street Networks, see “Traditional Neighborhood Development: Will the Traffic Work?” by Walter Kulash.

Town Center Street Guidelines

The following guidelines are based on those developed by the City of Orlando for the Baldwin Park development, and have been made generic for other jurisdictions. Other minor changes have also been made.

The following guidelines and standards apply to the Town Center:

(a) Mid-Block Connections. Provide pedestrian and/or auto connections at mid-block locations for mixed use and commercial blocks to increase the permeability of the site and encourage walking for some daily trips. Mid-block connections should be provided every 200 to 400 feet.



"Big-box" retail on a main street in Santa Cruz, CA

(b) Placement of Commercial Activity. The configuration of everyday shops in the Town Center should balance pedestrian and auto comfort, visibility, and accessibility. Building setbacks from public streets should be minimized. Primary ground-floor commercial building entrances should orient to plazas, parks, or pedestrian-oriented streets, not to interior blocks or parking lots. Anchor tenant retail buildings may have their entries from off-street parking lots or structured parking but are also required to have direct pedestrian connections to surrounding streets. On-street entries are strongly encouraged.



Mid-block "paseo" in Los Gatos, CA

(c) Relationship of Building to Public Spaces. Buildings should reinforce and revitalize streets and public spaces, by providing an ordered variety of entries, windows, bays, and balconies along public ways. Buildings should have human scale in details and massing. Free-standing or "monument" buildings should be reserved for public uses.

(d) Public Spaces. Greens and plazas may be used to create a prominent civic component to core commercial areas. Greens should be between 1 and 3 acres in size; plazas may be smaller. They should be placed at the juncture between the core commercial area and surrounding residential or office uses.



Movie theater facing a main street plaza in Santa Cruz, CA



(e) Civic Uses. Civic services, such as community buildings, government offices, recreation centers, post offices, libraries, and daycare, should be placed in central locations as highly visible focal points. Where feasible, they should be close to transit stops.

Philadelphia City Hall creates a terminating vista.

(f) Pedestrian and Multi-Modal Design. Streets and other public outdoor spaces within the Town Center should be functional, attractive, and designed to enhance the pedestrian life of the community. Seek to create a balanced transportation system that invites pedestrians, bicyclists, and transit riders, as well as motor vehicles. Provide a fine grain system of connections to maximize choices for all modes of travel.



State Street in Santa Barbara, CA.



Pedestrian and bicyclist connection in Davis, CA.

(g) Direct Pedestrian Connections from surrounding neighborhoods. When existing developed areas are redeveloped or retrofitted, ensure that pedestrian and bicyclist access from adjacent neighborhoods and destinations are provided. (Davis, CA)

(h) Arterial Streets as Edges. Arterials streets should be considered edges of the Town Center, unless they are designed as a one-way couplet or substantial pedestrian improvements are made and traffic through the Town Center is slowed. The Primary Conservation Network may also be used as an edge for the Town Center.

(i) Transit. The Town Center should be the primary stop on the regional transit system. Transit stops should, whenever possible, be centrally located and adjacent to the core commercial area. Commercial uses should be directly visible and accessible from the transit stop. Transfers to feeder buses (local bus network) should be provided for in the design and location of these stops. A preferred route for transit should be determined at the outset of planning, and those streets should be designed to accommodate transit vehicles.



Apartments and retail served by a light rail station in Mountain View, CA.



Pedestrians are given priority in this parking lot crossing in Los Gatos, CA.

(j) Parking Lots. Lots should be designed to accommodate safe pedestrian circulation using internal pedestrian corridors and limiting the time and distance pedestrians must walk behind parked vehicles. Amenities that will provide “eyes-on-the-lot” are encouraged, such as shaded outdoor dining areas, benches and employee break areas.

Street Design

The following guidelines are based on those developed by the City of Orlando for the Baldwin Park development, and have been made generic for other jurisdictions. Other minor changes have also been made.

Street Sections

Each cross section details lane width, medians, bicycle lanes, parking, sidewalks, landscape areas, drainage (rural roadways), and required right-of-way. Not all contingencies have been covered because the list would be far too large. However, cross sections may be modified to accommodate special circumstances. For example, it may not be desirable to have a sidewalk on the side of a roadway fronting a wetland; the appropriate cross section can be developed by deleting the sidewalk from the cross section designed for the particular type of roadway.

(a) Cross Section Types. Cross sections have been developed for arterials (urban and rural), mixed-use center streets (arterial and local), residential neighborhood streets, residential and connector streets, and airport support district streets. Arterials are defined as major high-volume roadways such as *Generic Road* and *Generic Street*. Town and Village Center streets should be composed of arterial and local streets. Neighborhood Center streets should be local in nature. Residential Neighborhoods should be comprised of connector and local streets. Residential and commercial connector streets should provide vehicular connections between residential neighborhoods and commercial centers.

(b) Specific Requirements for Residential Neighborhoods. Residential neighborhood local streets reflect the options available for three levels of on-street parking. Whether there is no on-street parking, limited on-street parking or unlimited on-street parking should be determined by presence or absence of one- or two-car garages and the resulting driveway width. The specific roadway cross-section should be determined at the time of site plan review based on the proposed unit types fronting the roadway.

(c) Street Trees and Utilities. Electrical, telephone and cable transmission lines and natural gas lines should be placed in alleys wherever feasible. This frees the parkway for canopy-sized trees. Trees should be planted in the parkways of residential and village center streets to provide significant shade and be species native to Florida. Street trees are encouraged on Town Center streets.

The core cross sections referenced above are summarized in the following table.

Typical Local Street Cross Sections

Major Urban Arterials or Collectors	Parking	Bicycle Lanes	Street Trees	Sidewalks	Minimum ROW (feet)	Lane Widths (feet)
Town Center:						
One-Way Two-Lane	Both Sides	Yes*	Yes	12 feet**	72	11
Two-Way Four-Lane Divided	Both Sides	Yes*	Yes	12 feet**	120	11
Village Center:						
One-Way Two-Lane	Both Sides	Yes*	Yes	10 feet**	68	11
Two-Way Four-Lane Divided	Both Sides	Yes*	Yes	10 feet**	116	11

Two-Lane Local Streets	Cross Section	Parking	Bicycle Lanes	Street Trees	Sidewalks	ROW (feet)	Lane Widths (feet)
Town or Village Center:							
Option 1	D1	Both Sides	No	No	10 feet	58	10
Option 2	D2	Both Sides	No	Yes	8 feet	62	10
Residential:							
Boulevard	E	No	Yes	Yes	7 feet	77	10
Boulevard	E	Yes	Yes*	Yes	7 feet	93	10
Local Street Type 1	B	Both Sides	No	Yes	5 feet	53	9
Local Street Type 2	C	Both Sides	No	Yes	5 feet	62	10
Lane	A	1 Side Only	No	Yes	5 feet	38-40	8-9
Alley (Two-way)	F	No	No	No	No	20-22	10-12
Alley (One-way)	F	No	No	No	No	16	8
Cul de Sac Type 1	G	Yes	No	Yes	No	32	NA
Cul de Sac Type 2	G	Yes	No	Yes	Yes	52	NA

Sources: Adapted from Glatting Jackson Kercher Anglin Lopez Rinehart, Inc. and *Street Design Guidelines for Healthy Neighborhoods*, by Dan Burden, Michael Wallwork, Ken Sides, Ramon Trias & Harrison Bright Rue.

* Use extreme care in providing sufficient bike lane width adjacent to parallel on-street parking. Bicyclists should never ride or be forced or encouraged to ride within 3 feet of a parked car. Crashes involving a bicyclist and an opening car door have **very high potential for serious injury and death**. The AASHTO *Guide for the Development of Bicycle Facilities* illustrates a combined parking lane/bike lane of 11 feet (measured from the curb face to the inside bike lane stripe), and recommends 13 feet for areas with “substantial parking turnover” (e.g. commercial areas). (The Florida Bicycle Facilities Planning and Design Handbook also recommends 13 feet.) In both cases, a bicyclist who rides in the center of the bike lane will be within the “door zone.” Providing 14 feet for the combined parking lane/bike lane allows cyclists to ride completely outside the door zone. Designers should consider not striping a bike lane in places where right-of-way or pavement width are insufficient to provide 14 feet.

Street Cross Section Details

When does a street need bike lanes?

The FDOT Bicycle Level of Service model can help you determine whether or not a street needs bike lanes, but generally speaking cul de sacs, alleys, lanes, local streets, and village center streets do not need them. Bicycle lanes are most useful on arterial and collector roads; they may be appropriate on residential boulevards if traffic volumes warrant. Example:

On-street parking (100% usage) and no bike lanes; 5,000 ADT = BLOS D

On-street parking (100% usage), bike lanes; 5,000 ADT = BLOS C

No on-street parking, 11 ft. lanes and no bike lanes; 5,000 ADT = BLOS D

No on-street parking; 11 ft. lanes and 4 ft. bike lanes; 5,000 ADT = BLOS B

Accommodating Transit

The street measurements and characteristics in this section may need to be modified if transit buses are planned or expected. Refer to the Lynx Central Florida Mobility Design Manual for specific transit needs.

Street Types

(A) Lane. Lanes provide access for service vehicles and access to adjacent land use. Lanes should predominantly carry traffic having either a destination or origin on the street itself.

a. Land Use: Single Family.

b. Specifications:

34' ROW.

Two 7' parkways.

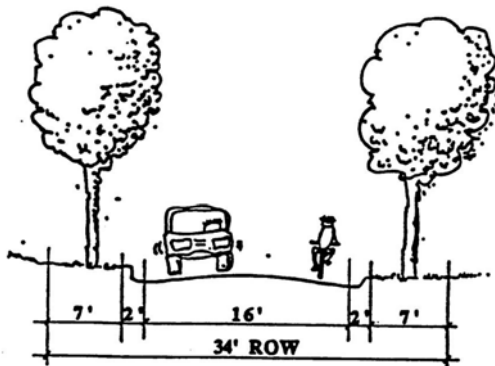
Two 8' lanes.

15' curb radii.

20 mph posted speed.

2' curb and gutter both sides.

FIGURE A



(B) Type 1 Local Streets. These streets provide access for service vehicles and access to adjacent land use. Type 1 Local Streets should predominantly carry traffic having either a destination or origin on the street itself.

a. Land Use: Single family, two family, bungalow court.

b. Specifications:

53' ROW.

Two 5' sidewalks.

Two 7' parkways.

Two 9' general use lanes.

One 7' unmarked parking lane.

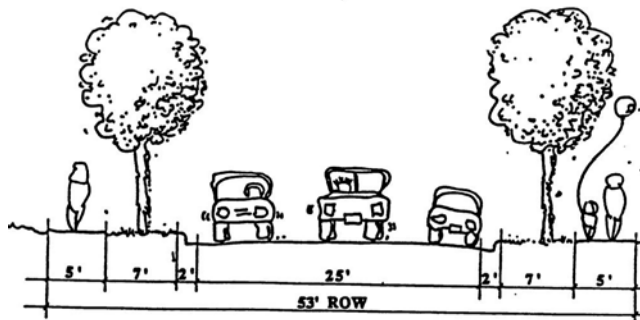
20' curb radii.

20 mph posted speed.

2' curb and gutter both sides.

c. On-street parking is optional if the pavement width is reduced to 18' (two 9' general use lanes) and right-of-way (ROW) reduced accordingly.

FIGURE B



(C) Type 2 Local Streets. These streets provide access for service vehicles and access to adjacent land use. The Type 2 Local Street may carry a small amount of residential through traffic generated from other local streets and lanes.

a. Land Use: Single family, two family, bungalow court, multifamily, rowhouses.

b. Specifications:

62' ROW.

Two 5' sidewalks.

Two 7' parkways.

Two 10' general use lanes.

Two 7' marked parking lanes.

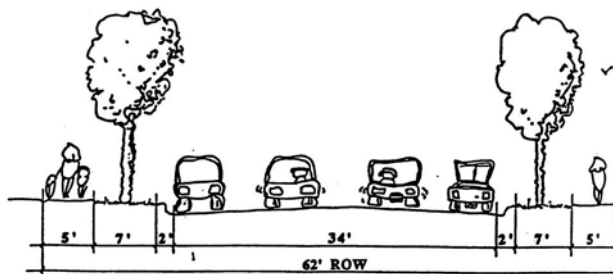
20' curb radii.

25 mph posted speed.

2' curb and gutter both sides.

c. The parking lanes on Type B Local Streets should be striped.

FIGURE C



(D) Town or Village Center Street. These streets provide access for businesses and access to properties and to parking areas. Widths and radii should be increased as necessary if transit is to be accommodated.

a. Land Use: Town or Village Center.

b. Specifications:

(1) Option 1:

58' ROW.

Two 10' sidewalks.

Two 10' general use lanes.

Two 7' marked parking lanes.

25' curb radii.

25 mph posted speed.

2' curb & gutter both sides.

(2) Option 2:

62' ROW.

Two 8' sidewalks.

Two 10' general use lanes.

Two 4' planting strips.

Two 7' marked parking lanes.

25' curb radii.

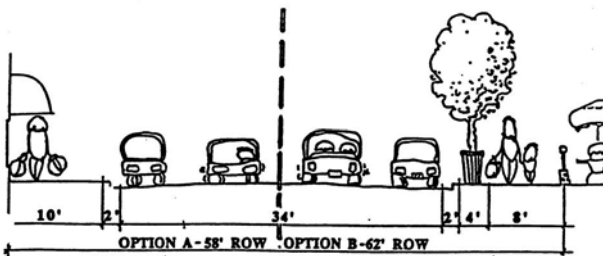
25 mph posted speed.

2' curb & gutter both sides.

c. *Village Center Streets* should be striped to denote a no passing zone.

d. Bulbouts are required at intersections. Mid-block bulbouts are recommended on longer blocks.

FIGURE D



(E) Residential Boulevard. These Boulevards are similar to *Type 1 & 2 Local Streets* and *Village Center Streets*, depending upon adjacent land use. The distinction between the Residential Boulevard and the other streets is the inclusion of a landscaped median.

a. Land Use: Single family, two family, bungalow court, multifamily, Village Center.

b. Specifications:

93' ROW.

Two 7' sidewalks.

Two 7' parkways.

Two 10' general use lanes.

Two 6' bicycle lanes.

Two 7' marked parking lanes.

15' raised median with straight curbs or with gutter.

20' curb radii.

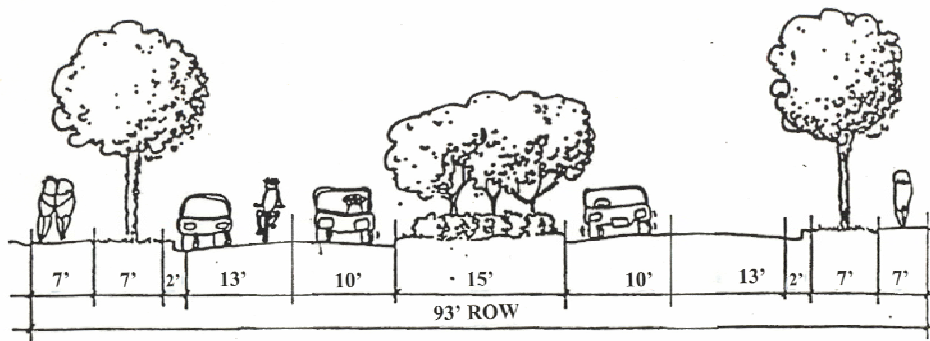
25 mph posted speed.

2' curb and gutter both sides.

c. Option without on-street parking: pavement width is reduced to 30' (two 10' general use lanes, two 5' bicycle lanes and raised 15' median) and right-of-way (ROW) is reduced accordingly.

d. Bulb-outs are required at intersections where on-street parking is provided.

FIGURE E



(F) Alley. The purpose of an alley is to provide a secondary means of access to lots and off-street parking at the rear of lots. The alley should not provide access for service vehicles.

a. Land Use: All land uses.

b. Specifications:

16' ROW.

One 8' lane, one-way.

Two 4' usable buffers.

10' radii.

(G) Cul-de-Sac. The purpose of a cul-de-sac is to provide access for service vehicles and access to lower density land uses and to allow flexibility in the design of cross sections.

a. Land Use: Single family, two family, bungalow court.

b. Specifications:

(1) Option 1 (aligns with *Lane*):

32' radius ROW.

15 mph posted speed.

30' radius paved area.

2' curb and gutter.

(2) Option 2 (aligns with *Local*):

52' radius ROW.

20' paved general use lane.

5' sidewalk.

15 mph posted speed.

25' radius center landscaped

2' curb and gutter.

island with curbs.

c. Cul-de-sacs should be on street segments no longer than 500'.

d. A 7' parkway is optional; ROW should be increased accordingly.

e. Consider providing pedestrian connections between cul de sacs and adjacent streets.

Relation of Buildings to Streets and Parking.

(a) Orientation. Primary facades should contain the primary entry and should be street-facing. The principle orientation of the front facade of all buildings should be parallel to the streets they face. Where public parks are located across a street, the front facade should face the public park. Rear yards should not occur along local or connector streets.



Baldwin Park

(b) Homes Adjacent to Parkways and Arterial Streets. Where residential areas abut parkways and arterial streets, lotting and home placement should address these major streets in one of three ways:

1. homes front onto these streets with larger front setbacks and alley-accessed garages;
2. a frontage road is built adjacent to the major street right-of-way that provides a landscaped, "slow-traffic" local street for homes to front onto; or
3. cul-de-sac streets intersect with the major street with an opening or gated entry for pedestrians; homes may have side yards facing onto the major street.

(c) Primary Entry and Porches. With the exception of four-plexes, apartments, and accessory dwelling units, every home should have its primary entry (front door) facing a public street and not more than 6 feet recessed back from the face of the primary facade. Four-plexes and apartments may have their primary entry facing a central, landscaped courtyard. Ancillary units may face an internal walkway, driveway, or alley. Porches for all residential types should be accessed directly from a public street or pedestrian easement and must be visible from the street. It is suggested that porches extend 6 feet into the setback. Front porches should have a minimum depth of six feet and comprise a minimum of 30% of the width of a building's primary front facade (not including the garage) or 10 feet whichever is larger. Porches for duplexes, condos, and apartments may be shared. Tunnel-like entrances should be discouraged.



Baldwin Park



Celebration

(d) Garages. Residential streetscapes should not be dominated by garages. Garage frontage should also be limited for single family houses, duplexes and townhomes; garages should not comprise more than 25% of a building's street facing frontage (except on alleys).

1. Garages for Estate Residential, Large-Lot Single Family, Standard-Lot Single Family, Small-Lot Single Family, and Duplex types should be provided in one of two ways:

a. attached and recessed from the primary facade (not including porches, bays, or other minor projections) by a minimum of 8 feet and at least 24 feet from the street right-of-way; or

b. attached or detached, placed at the rear property line, and accessed by either an alley or a side yard driveway. In each development of single family houses and/or duplexes, no more than 50% of the units may have a recessed, front-loaded garage.

2. Garages for Townhouse and Apartment types may be either:

a. attached or detached, placed at the rear property line, and accessed by an alley or side yard driveway; or

b. for apartments, carports or garages may be grouped together and placed behind buildings.



Front Setbacks.

Front setbacks are measured from the right-of-way line of the adjacent street. Side yard and rear yard setbacks are measured from the property line.

Figure 68-F

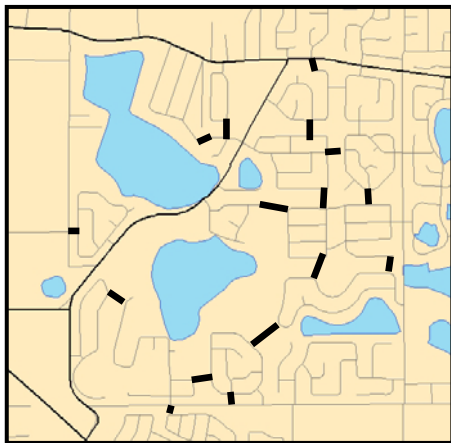
Front Setback	Town Center	Village Center	Neighborhood & Residential Center*	Residential Neighborhood	Estate Residential
Minimum Front Setbacks	8 feet	10 feet	15 feet	15 feet	20 feet
Maximum Front Setbacks	12 feet	15 feet	30 feet	25 feet	n/a

* Residential buildings with ground floor retail must follow the setback standards identified in the Mixed Use Block Standards.

Suburban Retrofit Techniques

Connecting Cul de Sacs and Loops

Recognizing the desire to reduce cut-through motor vehicle traffic on local neighborhood streets, this higher node-to-link ratio can be applied only to the pedestrian and bicycle system by making path connections between cul de sacs and loops and between subdivisions (map below). This strategy can be applied both to new and existing development. For existing developments, jurisdictions should consider identifying key properties that can provide such connections, and offer to purchase them as they come up for sale. The jurisdiction can then create the path connection and sell the property.



Using the example from Page 3 and adding walk and bike connections between loops, cul de sacs and subdivisions...

Centerline Miles increase from 34.5 to 36

Number of Links increases from 323 to 339

Number of Nodes increases from – 129 to 148

Ratio Nodes to Links increases from – 0.40 to 0.43

Centerline Miles per Sq. Mile increases from 13.8 to 14.4

Nodes per Square Mile increases from 51.6 to 59.2

Incentives

Expedited Permitting

Fast-tracking permits for projects that meet an alternative building code can help offset the high costs of infill and also help promote densification where it is desired. Projects that increase density often have the opposite problem – permitting delays due to controversy over higher densities.

Impact Fee Credits

Infill costs in urban areas can be an impediment to accomplishing the density and mix of uses that are necessary to support walking and bicycling. Reduced impact fees offset the higher costs of urban infill and redevelopment. Communities can reduce impact fees for development according to the reduction of vehicle trips per household or vehicle miles of travel expected from the development pattern planned for the district.

One area that varies transportation impact fees to reinforce alternative modes of transportation is the City of Bellevue, Washington. Bellevue varies impact fees depending upon the location and type of development (sometimes as much as 100%), with much lower fees in the downtown area based on its high level of transit service. The City of Portland, Oregon discounts impact fees (called system development charges or SDCs) for “transit-oriented” developments and also applies SDC revenues to transportation capital improvement projects that advance multimodal transportation objectives over a 10-year period. Qualifying criteria for eligibility for SDC expenditures of relevance to Florida Multi-modal Transportation Districts include:

- accommodates increased density and/or in-fill re/development,
- reduces reliance on automobile usage by increasing access to alternate modes of travel,
- improves transit connections between employment centers and neighborhoods, and
- limits impacts of motor vehicles on pedestrian, bike, and transit-oriented areas.

Other incentives that can be explored are community redevelopment areas/tax increment financing districts and publicly funded improvements to area infrastructure and streetscapes. In addition, some states, including Rhode Island, New Jersey, and Maryland, have enacted Rehab Codes as a means of reducing costs associated with revitalizing older buildings in urbanized areas. Rhode Island’s Rehab Code, which went into effect in May 2002, is a streamlined and user-friendly document that reduces the time, expense and unpredictability of revitalizing older buildings for residential, commercial and industrial uses.

The Puget Sound Regional Council also notes the following effective incentives for transit-oriented developments:

- Density bonuses for projects that include a certain percentage of affordable housing units. In this way, communities can help preserve affordable housing alternatives and socio-economic diversity in multimodal districts, given the tendency of such areas to gentrify with a corresponding increase in housing prices.
- Expedited development applications in exchange

Floor Area Ratio Incentives

Some jurisdictions offer increased Floor Area Ratios (FAR) to developers that provide shower and locker facilities for bicycle commuters. One example is Portland, OR:

Planning & Zoning Code - title 33; Central City Plan District 33.510.210

8. Locker room bonus option. To encourage bicycling, projects in the CX and EX zones outside of the South Waterfront Subdistrict that provide locker room facilities and extra long-term bicycle parking receive bonus floor area.

For each square foot of area developed and committed to locker room facilities, a bonus of 40 square feet of additional floor area is earned. To qualify for the bonus, the following must be met:

- a. The locker room facility must include showers, a dressing area, and lockers;
- b. All tenants of the building must be able to use the locker room facility; and
- c. At least 110 percent of the required long-term bicycle parking for the site must be provided and must meet the standards of 33.266.220.B., Long-term Bicycle Parking.

Maximum and Minimum Number of Auto Parking Spaces

Each additional off-street surface parking space increases the distances between destinations. This is particularly discouraging to pedestrians, who are the most sensitive to increases in trip distance. At the same time, ample free parking encourages people to drive when other modes might be feasible. In addition to the conventional minimum parking space requirement, local governments can set a maximum limit to parking spaces. For developers who wish to exceed the maximum parking limit, a bonus program can be provided in which they can pay for the additional spaces. Conversely, Traffic Impact Fees can be discounted for developers who provide bicycle parking, provide less than the maximum number of auto spaces, and make other improvements to encourage walking, transit and bicycle use. Nearby on-street parking spaces can be counted toward the fulfillment of minimum parking requirements.

Example: City of Orlando Parking Requirements

Sec. 61.402. Parking Requirements.

(A) Number of Spaces. All uses within the Downtown Parking Area should provide parking spaces in accordance with the following:

- (1) Residential Uses.
 - (a) Minimum: See Figure 18.
 - (b) Maximum without Parking Bonus: Two (2.0) parking spaces per dwelling unit.
 - (c) Maximum with Parking Bonus: None.
- (2) Non-Residential Uses.
 - (a) Minimum: One (1.0) parking space per 1,000 sq. ft. of gross floor area (GFA).
 - (b) Maximum without Parking Bonus: Three (3.0) parking spaces per 1,000 sq. ft., GFA.
 - (c) Maximum with Parking Bonus: None.
- (3) Exempt Non-Residential Uses. The following non-residential uses are exempt from the minimum parking requirements provided in (A)(2)(a) above:
 - (a) Retail Uses.
 - (b) Personal and Entertainment Uses.
 - (c) Theaters.

- (d) Eating and Drinking Establishments.
- (e) Child Care Centers.
- (f) Hotel and Motel.
- (g) Public Benefit Uses.

(B) Parking Bonus.

- (1) Definition. For purposes of this Part, "Parking Bonus" should mean authorization given by the City to a landowner to provide parking spaces in excess of the maximum requirements set forth in (A) above, in exchange for a payment.
- (2) Purpose. The Parking Bonus system is established to further the following objectives:
 - (a) Ensure that uses and proposed uses in the Downtown Parking Area are competitive in the local real estate market;
 - (b) Discourage the provision of parking spaces in excess of absolute need; and
 - (c) Ensure that off-street parking spaces are available for use by Downtown Parking Area residents and the general public.
- (3) Bonus Payment. The total amount of a Parking Bonus payment should be calculated by multiplying the total number of parking spaces within each bonus range by the corresponding payment per space amount indicated in the tables below. For the purposes of this Part, gross floor area should only include interior spaces that are heated and/or air-conditioned.

Bonus Range For Residential Uses	Payment Per Space	
	West of I-4	East of I-4
0 to 2.0 spaces per dwelling unit	\$0	\$0
> 2.0 spaces per dwelling unit	\$1,500	\$1,500

Bonus Range For Non-Residential Uses	Payment Per Space	
	West of I-4	East of I-4
0 to 3.0 spaces per 1,000 sq. ft. GFA	\$0	\$0
> 3.0 spaces per 1,000 sq. ft. GFA	\$0	\$1,500

- (4) Allocation. Bonus parking spaces may be provided either on-site or off-site in the Program. Bonus parking spaces provided in the Program should be subject to both the Parking Bonus payment, as described in (B)(2), above, and the payment to the Trust Fund for spaces in the Program, as described in Section 61.404.
- (5) Designation. Prior to issuance of a building permit, the applicant should present to the City Planning and Development Department a written document which:
 - (a) Identifies the total number of parking spaces to be provided on-site and the total number of parking spaces to be provided in the Program; and
 - (b) Separately identifies the Bonus parking spaces to be provided on-site

Reducing Minimum Auto Parking Space Requirement in Return for Increased Bicycle Parking

Denver, CO:

"...bicycle parking spaces shall be provided equal to five (5) percent of the automobile parking space requirement."

"...required automobile parking spaces may be reduced at the ratio of one (1) automobile parking space for each six (6) bicycle parking spaces provided, except that

under no circumstances may the required number be reduced by more than five (5) percent.”

Gainesville, FL

“...development review board or the city manager or his or her designee may allow the substitution of bicycle parking facilities, in addition to the minimum number of required bicycle parking facilities, for vehicle parking spaces on a three-for-one basis. Such substitution shall be made upon presentation of evidence by the owner of the property that the proposed use will be better served through the provision of additional bicycle facilities. In no instance shall the number of vehicle parking spaces provided be reduced by substitution of bicycle parking facilities to less than 85 percent of the requirements of this section.”

Charlotte, NC:

The City of Charlotte, NC offers many types of density bonuses in their Transit Oriented Development District (Chapter 9) and their Pedestrian Overlay District (Chapter 10).

[http://www.ci.charlotte.nc.us/Departments/Planning/Rezoning/City + Rezoning + Ordinance.htm](http://www.ci.charlotte.nc.us/Departments/Planning/Rezoning/City+Rezoning+Ordinance.htm) .

Going Further

Drive-Through Services

Drive-throughs not only encourage trips by auto that might be conducted by walking or bicycling, but the extra space required decreases pedestrian-friendly densities, idling vehicles concentrate pollutants around the business, and conflicts are increased between drive-through users and pedestrians. The City of San Luis Obispo, CA prohibits drive-through facilities in all city zones (City of San Luis Obispo Zoning Regulations; Chapter 17.22: Use Regulation).

The City of Palo Alto, CA only allows drive-through services in their Community Commercial Districts if such services provide full access to pedestrians and bicyclists, permits no more than two drive-ins within 1,000 feet, and prohibits drive-ins from being less than 150 feet from one another.

Off-Street Motor Vehicle and Bicycle Parking Requirements

Based on Palo Alto, CA

Bicycle Parking Classes (see pages 22 through 24)

Class I: intended for long-term parking. Examples: bike lockers, covered locked cages, special locked room

Class II: intended for short term parking; bicycle racks.

Use	Minimum Off-Street Auto Parking Requirement	Minimum Bicycle Parking Requirement	Class
Administrative office services	1 space for each 250 sq. ft. of gross floor area	10% of auto parking	80% – I 20% – II
Business and trade schools	1 space for each 4-person capacity, or 1 space for each 250 sq. ft. of gross floor area, whichever is greater	10% of auto parking	40% – I 60% – II, covered
Churches and religious institutions	1 space for each 4 seats or 4-person capacity, based on maximum use of all facilities at the same time	10% of auto parking	20% – I 80% – II
Commercial recreation	1 space for each 4 seats or 4-person capacity, or as adjusted by the Zoning Administrator as part of the conditional use permit, not to exceed a 30% reduction	25% of auto parking	20% – I 80% – II, or as adjusted by Zoning Admin.
Community facilities (such as swim club, tennis club, golf course, community center, and similar facilities)	1 space for each 4 seats or 4-person capacity, or as adjusted by the Zoning Administrator as part of the conditional use permit, not to exceed a 30% reduction	25% of auto parking	20% – I 80% – II, or as adjusted by Zoning Admin.
Convalescent facilities	1 space for each 2.5 patient beds	10% of auto parking	2 spaces – I Remainder – II
Day care centers	1 space for each 1.5 employees	25% of auto parking	20% – I 80% – II
Eating and drinking services	1 space for each 60 sq. ft. of public service area, plus 1 space for each 200 sq. ft. other areas	10% of auto parking	40% – I 60% – II
Eating and drinking services with drive-in/take-out facilities	3 spaces for each 100 sq. ft. of gross floor area	25% of auto parking	40% – I 60% – II
Banks and other financial services	1 space for each 250 sq. ft. gross floor area	10% of auto parking	40% – I 60% – II
General business services	1 space for each 350 sq. ft. gross floor area	10% of auto parking	80% – I 20% – II
Hospitals	1 space for each 1.5 patient beds	10% of auto parking	60% – I 40% – II
Hotel	1 space per guest room, (plus applicable requirements for other uses, minus 75% of spaces required for guest rooms)	10% of auto parking	40% – I 60% – II

Off-Street Motor Vehicle and Bicycle Parking Requirements (continued)

Use	Minimum Off-Street Auto Parking Requirement	Minimum Bicycle Parking Requirement	Class
Lodging	1 space per guest room, (plus applicable requirements for other uses)	10% of auto parking	100% – I
Manufacturing	1 space for each 300 sq. ft. gross floor area	10% of auto parking	90% – I 10% – II
Medical, professional, and general business offices	1 space for each 250 sq. ft. gross floor area	10% of auto parking	60% – I 40% – II
Multi-family residential (resident)		1 space per unit	100% – I
Multi-family residential (guest)		1 space per 10 units	100% – II
Private clubs, lodges and fraternal organizations	1 space for every 4 seats or 4-person capacity based on maximum use of all space at one time	10% of auto parking	20% – I 80% – II
Research and development	1 space for each 250 sq. ft. gross floor area	10% of auto parking	80% – I 20% – II
Retail	1 space for each 200 sq. ft. gross floor area	10% of auto parking	20% – I 80% – II
Schools			
Grades K thru 8	2 spaces per teaching station	1 space per every three students	10% – I (staff) 90% – II (students)
Grades 9 thru 12	4 spaces per teaching station	1 space per every three students	10% – I (staff) 90% – II (students)
Shopping center	1 space for each 275 sq. ft. gross floor area	10% of auto parking	40% – I 60% – II
Warehousing and distribution	1 space for each 1,000 sq. ft. gross floor area	10% of auto parking	80% – I 20% – II
Any use not specified	To be determined by Director of Planning & Community Development	To be determined	To be determined

Bicycle Parking Design Standards (based on City of Palo Alto, CA; Denver, CO):

(A) Classifications of Bicycle Parking Facilities.

(1) Class I Facilities. Intended for long-term parking; protects against theft of entire bicycle and of its components and accessories. The facility must also protect the bicycle from inclement weather, including wind-driven rain. Three design alternatives for Class I facilities are as follows:

(a) Bicycle Locker. A fully enclosed space accessible only by the owner or operator of the bicycle. Bicycle lockers may be pre-manufactured or designed for individual sites. All bicycle lockers must be fitted with key locking mechanisms.

For sample illustrations of bicycle parking equipment, see METROPLAN ORLANDO's *Providing Quality Bicycle Parking*

In multiple-family developments, the Class I bicycle parking and required storage area for each dwelling unit may be combined into one locked multi-use storage facility provided that the total space requirement should be the sum of the requirements for each use computed separately.

The preferred Class I facility is a bicycle locker. Restricted access facilities and enclosed cages may be considered as alternatives to bicycle lockers as indicated below. Class I facilities other than lockers, restricted access rooms, or enclosed cages, but providing the same level of security, may be approved by the Director of Planning and community Environment.

(b) Restricted Access. Class II bicycle parking facilities located within a locked room or locked enclosure accessible only to the owners or operators of the bicycles parked within. The maximum capacity of each restricted room or enclosure should be ten (10) bicycles. An additional locked room or enclosure is required for each maximum increment of ten additional bicycles. The doors of such restricted access enclosures must be fitted with key locking mechanisms.

In multiple-family residential developments, a common locked garage area with Class II bicycle parking facilities should be deemed restricted access provided the garage is accessible only to the residents of the units for whom the garage is provided.

(c) Enclosed Cages. A fully enclosed chain link enclosure for individual bicycles, where contents are visible from the outside, and which can be locked by a user-provided lock. The locking mechanism must accept a 3/8" diameter padlock. This type of facility is only to be used for retail and service uses and multiple family developments.

(2) Class II Facilities. Intended for short-term parking. A stationary object to which the user can lock the frame and both wheels with a user-provided cable or chain (6 foot) and lock. The preferred facility is an inverted "U" bicycle rack.

(a) Description - The "Inverted U" Type Bicycle Rack (source: City of Denver, CO)

The Inverted U's shall be fabricated from 1 ½" Schedule 40 Pipe, in accordance with ASTM F 1083, 48.26 mm O.D. x 3.683 mm wall (1.90" x 0.145" wall). The U's shall measure 914.4 mm high x 457.2 mm wide (36" high, 18" wide). The bicycle racks shall not be welded in sections. Only the base plate shall be welded to the steel pipe with two (2) 3mm (1/8") vent holes - one on the inside of each upright where the pipe is welded to the baseplate. After fabrication, the rack shall be coated with a Thermoplastic (polyethylene copolymer based) powder coating (polyarmor) to a thickness 200-250 micrometers (8 - 12 mils). Racks shall be mounted to concrete via 190 mm (7 ½") diameter baseplates 10mm (3/8") thick steel in accordance with ASTM A 36, with three 11 mm diameter (7/16") mounting holes on each base plate, spaced equidistant between the upright pipe and edge of the baseplate. Expansion anchor to be carbon steel mushroom head, 10 mm x 76 mm (3/8" x 3") "spike" #5550 as manufactured by Rawl or approved equal manufactured in the U.S. made from grade 8.2 materials exhibiting equivalent theft-proof performance. Racks shall be set firm and aligned with a tolerance of plus or minus ¼" from plumb. Where required, steel tapered shims shall be installed prior to anchoring in place. Any departure of base plate from grade by more than 3/8" shall require the separation to be filled with high-strength epoxy non-shrinking grout and made level.

The "Inverted U" is especially recommended as a standard for jurisdictions without a designated bicycle coordinator or planner. Planners and building inspectors without significant bicycle facility design experience do not usually have the expertise in discerning good bicycle racks from marginal or poor ones. The "Inverted U" standard makes the planner's or building inspector's job simpler and guarantees a quality Class II bicycle parking facility.

"Inverted U" (Baserail Array) Alternate.

Inverted U bike racks shall consist of two to five inverted U's as specified above, mounted 30" on-center via baseplate rails. Racks shall be mounted to concrete via baseplate rails 12.7 mm x 76.2 mm (1/2" x 3") steel in accordance with ASTM A 36 to create a free-standing array.

Only the base rails shall be welded to the steel pipe. The baserails shall have 11 mm diameter (7/16") mounting holes located as shown on the city bicycle rack details (mounted via the same expansion anchors as described above.)

(b) All Class III facilities must be located at street floor level.

(3) The following general design standards should be observed (Palo Alto, CA):

(a) Facilities designed for hanging or vertical storage of bicycles do not satisfy the requirements of this chapter.

(b) Paving of bicycle parking areas is required.

- (c) Class II facilities should provide at least a twenty-four inch clearance from the centerline of each adjacent bicycle, and at least eighteen inches from walls or other obstructions.
- (d) An aisle or other space should be provided to bicycles to enter and leave the facility. This aisle should have a width of at least five feet (1.5 meters) to the front or the rear of a standard six-foot (1.8 meters) bicycle parked in the facility.
- (e) Parking facilities should support bicycles in a stable position without damage to wheels, frame, or component.
- (f) Bicycle parking should be situated at least as conveniently as the most convenient non-ADA motor vehicle parking area. Bicycle and motor vehicle parking areas should be separated by a physical barrier or sufficient distance to protect parked bicycles from damage by motor vehicles.
- (g) Class I facilities at employment sites should be located near the building entrances used by employees.
- (h) Class II facilities intended for customers or visitors should be located near the main building entrances used by the public.
- (i) Convenient access to bicycle parking facilities should be provided. Where access is via a sidewalk or pathway, curb ramps should be installed where appropriate. Users should not be required to use steps to access bicycle parking facilities.
- (j) Lighting should be provided in all bicycle parking areas. In both exterior and interior locations, lighting of not less than one footcandle of illumination at ground level should be provided. .
- (k) The director of planning and community environment should have the authority to review the design of all bicycle parking facilities required by this chapter with respect to safety, security, and convenience.

(4) Signage of Bicycle Parking Facilities.

- (a) Where bicycle parking areas are not clearly visible to approaching bicyclists, signs should be posted to direct cyclists to the facilities. [Signs should be D4-3 from MUTCD.]
- (b) All bicycle parking areas should be identified by a sign of a minimum of 12" x 12" in size to identify the area for bicycle parking and to give the name, phone number or location of the person in charge of the facility.
- (c) Where Class I parking required by this chapter is provided by restricted access parking, the sign should state that the bicycle enclosure should be kept locked at all times.

Municipalities with full-time bicycle coordinators may wish to develop a list of suppliers who provide bicycle racks and lockers that meet the city's codes. Such a list might include the type of rack, unit costs, a security rating, and bicycle capacity. Such a list will require regular updating, but will allow builders greater flexibility in selecting racks while at the same time ensuring that installed racks are effective.

Employee Shower Facility Requirements

Based on Palo Alto, CA

“Employee shower facilities should be provided for any new building constructed, and for any addition or enlargement of an existing building or use in compliance with the following table.”

Use	Gross Floor Area of New Construction	Number of Showers Required
Medical, professional, general business offices, financial services, business and trade schools, general business services, research and development, and manufacturing	0 – 9,999 square feet	No requirement
	10,000 – 19,999 square feet	1
	20,000 – 49,999 square feet	2
	50,000 square feet and up	4
Retail, personal and eating and drinking services	0 – 24,999 square feet	No requirement
	25,000 – 49,999 square feet	1
	50,000 – 99,999 square feet	2
	100,000 square feet and up	4

Best Practices Design Resources

(Italicized items included on Metroplan Orlando Bicycle & Pedestrian Best Practices Guide CD)

General

Model Ordinances for the Enhancement of Bicycle and Pedestrian Access to Transportation Facilities – from 20-Year Bicycle & Pedestrian Access Master Plan – Maryland DOT

Land Use and Transportation Network Relationship

Multimodal Transportation Districts and Areawide Quality of Service Handbook – FDOT

Model Regulations and Plan Amendments for Multimodal Transportation Districts – Developed for FDOT by the Center for Urban Transportation Research (University of South Florida)

Street Networks

Traditional Neighborhood Development: Will the Traffic Work? – Presentation by Walter Kulash at the 11th Annual Pedestrian Conference in Bellevue WA, October 1990.

Neighborhood Connectivity: Literature Review & Case Studies – FDOT District 4

Pedestrian Facility Design

FDOT Pedestrian Planning & Design Handbook

Guide for the Development of Pedestrian Facilities (soon to be released) – American Association of State Highway and Transportation Officials (AASHTO)

Designing Sidewalks and Trails for Access: Parts I, II & III – Federal Highway Administration

Improving Conditions for Bicycling and Walking – Association of Pedestrian and Bicycle Professionals (APBP)

Central Florida Mobility Design Manual – LYNX

Customer Amenities Manual – LYNX

Bicycle Facility Design

FDOT Bicycle Planning & Design Handbook

Guide for the Development of Bicycle Facilities – American Association of State Highway and Transportation Officials (AASHTO)

Improving Conditions for Bicycling and Walking – Association of Pedestrian and Bicycle Professionals (APBP)

Bicycle Parking

Providing Quality Bicycle Parking -- METROPLAN ORLANDO

Bicycle Parking Guidelines -- Association of Pedestrian and Bicycle Professionals (APBP)

End-of-Trip Bicycle Facilities Guide -- Broward County MPO

Motor Vehicle Parking

Parking Alternatives: Making Way for Urban Infill and Brownfields Redevelopment -- Urban and Economic Development Division, U.S. Environmental Protection Agency

The Trouble With Minimum Parking Requirements -- Victoria Transport Policy Institute

Suburban Retrofit

Transforming Suburban Business Districts -- Urban Land Institute

Appendix D
Summary of Federal Surface Transportation Bill
SAFETEA-LU



LEAGUE OF AMERICAN BICYCLISTS

1612 K Street, NW Suite 800

Washington, DC 20006-2850

Website www.bikeleague.org

Email bikeleague@bikeleague.org

Phone 202.822.1333

Fax 202.822.1334

H.R. 3. SAFETEA-LU

The Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users

A summary prepared by the League of American Bicyclists.

Congress has passed H.R. 3 and submitted it to the President for his signature. The legislation amends Titles 23 and 49 of the United States Code and authorizes the expenditure of \$286.5 billion dollars over the next five years (2005-2009). The summary that follows addresses programs of primary interest to bicyclists and pedestrians. Please note that

- The summary is preliminary; it's a big bill!
- Programs established by ISTEA and TEA-21 remain in place unless amended by SAFETEA-LU
- Text of the bill can be found at <http://www.house.gov/rules/109textTEALU.htm>
- More analysis of the legislation will be available at www.bikeleague.org and www.americabikes.org and many other sites addressing specific program areas.

1. Surface Transportation Program (STP).

STP remains one of the largest single programs in the legislation: \$32.5 billion over five years. Ten percent of these funds are set aside for **Transportation Enhancement (TE)** activities. Historically, just over half of TE funds have gone to bicycle/pedestrian/trail projects, which would mean \$1.625 billion over the life of SAFETEA-LU.

Change: Section 1113 (c) protects TE funding from the decline in STP funding caused [in part] by the removal of safety set-aside funding; it says states shall set-aside for Transportation Enhancements the greater of these two amounts for the TE program from 2006 onwards:

- 10 percent of funds apportioned the state under the STP, or
- The amount set aside under this paragraph for fiscal year 2005

Change. Definition of TE activities amended slightly to include historic battlefields (under the scenic easements category) and inventory of billboards (as well as control and removal). Other categories remain unchanged. (Section 1122 (a)).

Change. Safety set-aside program (also ten percent of STP funds) is removed from 2006 and replaced a Highway Safety Improvement Program (with approximately \$5 billion of total funding). This change helps explain why the overall size of the STP falls from 2005 to 2006. (Section 1401)

Change. Section 6003 establishes a pilot program under which up to five states may “assume responsibilities for certain projects and programs” including the TE program. The State DOT would assume the responsibility program administration currently held by the Secretary of Transportation.



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Comment. Opportunities for bicycle/pedestrian funding may increase given the creation of the HSIP, the National Corridor Infrastructure Improvement program and Projects of National and Regional Significance program (Mega Projects), and even Safe Routes to School, which would otherwise likely have come from STP funds.

2. Congestion Mitigation and Air Quality (CMAQ) improvement program.

Five year funding set at \$8.6 billion. Historically, bicycle and pedestrian projects have accounted for approximately five percent of CMAQ funding, which would mean \$430 million over the life of SAFETEA-LU.

Comment. Increased competition for funding because of increase in non-attainment areas eligible to receive funds.

3. Highway Safety Improvement Program (HSIP).

New program to replace Safety Set-aside program. Significantly increases funding to \$5 billion over four years (2006-2009). Bicycle and pedestrian projects historically accounted for one percent of safety construction funds, which would mean \$50 million over the life of SAFETEA-LU. The program is very similar in scope and purpose to the safety set-aside program in TEA-21 – projects to improve the safety of bicyclists and pedestrians are very much eligible.

Change. More detailed definition of “highway safety improvement projects” includes

- Installation of rumble strips “if the rumble strips or other warning devices do not adversely affect the safety and mobility of bicyclists, pedestrians and the disabled
- An improvement for pedestrian or bicyclist safety
- Construction of traffic calming feature
- Installation and maintenance of fluorescent yellow-green pedestrian/bicycle crossing warning signs (Section 1401)

Change. States are required to develop and implement a strategic highway safety plan that:

- Is developed after consultation with “representatives of major modes of transportation”
- Produces a “program of projects” to reduce safety problems
- Is evaluated regularly
- Includes an annual report to the Secretary of Transportation

Comment. \$880 million of the funds are set-aside for rail-highway crossing improvements or elimination.

Comment. There is no requirement for states to spend these funds in proportion to the percentage of bicycle and pedestrian fatalities in their state.



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4. Recreational Trails Program (RTP)

Five-year funding at \$370 million. At least 30% must be spent on nonmotorized trail projects, which will mean at least \$110 million over the life of SAFETEA-LU.

Change: Section 1109 has numerous minor changes to the RTP.

5. Scenic Byways.

Five-year funding is set at \$175 million. Bicycle and pedestrian projects have typically constituted a small percentage (2-3%) of scenic byways projects.

6. Safe Routes to School Program. (SR2S)

A new program established by SAFETEA-LU with \$612 million in funding over five years.

Section 1404 describes and defines the new SR2S program in some detail. Highlights include:

- Target audience and eligible schools are primary and middle school
- No state shall receive less than \$1 million per fiscal year
- \$3 million per year is set aside for administration of the program by USDOT including
- Establishing a Safe Routes to School Clearinghouse
- Establishing a Safe Routes to School Task Force
- Between 10% and 30% of the funds must be used for noninfrastructure-related activities
- States shall use some of their funds to fund a full-time SR2S coordinator

7. Transportation, Community, and System Preservation Program (TCSP).

Created as a pilot by TEA-21, the program is made permanent with \$270 million over five years. Funding is eligible to be used for bicycle and pedestrian projects and a number of projects funded under TEA-21 were for NMT programs. (Section 1117)

Comment: the TCSP program was heavily earmarked by Congress; the new language in SAFETEA-LU may offer more protection from that process.

8. Bicycle and Pedestrian Safety Grants.

Section 1411 (b) provides \$2.3 million to fund the national bicycle and pedestrian clearinghouse through 2009. (This is currently known as the Pedestrian and Bicycle Information Center).

9. High Priority Projects.

Section 1701 establishes the High Priority Projects Program that includes more than 4,000 individual projects valued at close to \$3 billion. More analysis is required to determine the number and value of these projects that related to bicycling and walking.



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10. Nonmotorized Transportation Pilot Program.

Section 1807 establishes a pilot program to determine the impact of significant investment in nonmotorized infrastructure in a community. \$100 million is allocated: \$25 million to Columbia, MO; Marin County, CA; Minneapolis-St. Paul, MN; and Sheboygan County, WI.

11. Highway Safety Programs.

Section 2001 authorizes \$1,060 million for Section 402 Highway Safety Programs and \$500 million for Section 403 Highway Safety Research, both programs administered by the National Highway Traffic Safety Administration and focused on education and enforcement programs. This has been an important but small source of funding for bicycle and pedestrian safety education programs.

Change: Section 2003 (e) requires a pedestrian safety report (due in two years) focused on the potential benefits of intelligent highway and vehicle design to mitigate and prevent crashes involving motorists and pedestrians.

Change: Section 2004 requires the Secretary of Transportation to conduct a review of each state highway safety program.

12. Transportation Planning.

Change. Sections 3005 and 3006 (and 6001) re-write the planning language for states and metropolitan planning organizations. State and MPO plans continue to be required to address the safety and security of the transportation system for nonmotorized users and to consider all modes of transportation.

- MPO transportation plan to have 20-year horizon and be updated at least every 5 years (4 years for non-attainment areas)
- MPO transportation plan to include “proposed transportation and transit enhancement activities
- MPO to provide “representatives of users of pedestrian walkways and bicycle transportation facilities” with a reasonable opportunity to comment on the transportation plan
- Metropolitan Transportation Improvement Program (TIP) to be updated at least once every four years with a priority list of proposed projects for each four year period; “representatives of users of pedestrian walkways and bicycle transportation facilities” given chance to participate in the development of the TIP
- MPO shall publish an annual list of projects, including pedestrian walkways and bicycle transportation facilities for which Federal funds have been obligated in the preceding year
- State transportation plan to have 20-year horizon; no requirement for regular updating
- State to provide “representatives of users of pedestrian walkways and bicycle transportation facilities” with a reasonable opportunity to comment on the transportation plan
- State Transportation Improvement Program (TIP) to be updated at least once every four years and cover a four year period
- State TIP to “reflect the priorities for programming and expenditures of funds including transportation enhancement activities” and transit enhancements



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- State shall publish an annual list of projects for which Federal funds have been obligated in the preceding year in metropolitan areas

13. Transit enhancements.

Section 3009 maintains the requirement that recipients of Urbanized Area Formula Grants spend at least one percent of their funds on “transit enhancements” which include bicycle and pedestrian provisions.

14. Alternative Transportation in Parks and Public Lands

Four-year funding of \$96 million is available to promote alternative transportation (specifically including non-motorized modes) in national parks and on other public lands. (Section 3021)

15. Miscellaneous provisions

Technical Correction. Section 1111 (b) (4) makes a minor formatting change to Section 1212(i) of TEA-21 (Bicycle and Pedestrian Safety Grants).

HOV Facilities. Section 1121 says State agencies shall allow motorcycles and bicycles to use High Occupancy Vehicle lanes unless the agency certifies that such use would create a safety hazard.

Traffic Circles. Section 1949 makes eligible for funding as a safety improvement “traffic circles (also known as roundabouts)”.

Public Lands Highways program. Section 1954 removes the requirement that funds spent on bicycling projects using federal lands highway funds have to be used “in conjunction” with a highway project. Bicycle and pedestrian projects can stand alone.

Surface Transportation Environment and Planning Cooperative Research Program. Section 5207 establishes and provides \$50 million (2006-2009) to fund research in the areas of planning and the environment.

Intelligent Transportation Systems. Section 5303 confirms the goals of the ITS program includes “accommodation of the needs of all users of surface transportation systems...including...bicycles and pedestrians”.

Intermodal Transportation Database. Section 5601 confirms that the Bureau of Transportation Statistics should maintain an Intermodal Transportation Database that includes information on the volumes and patterns of bicycle and pedestrian travel.

Section 1914. Motorcyclist Advisory Council.

Interesting comparison with bicycling.



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Section 2010. Motorcyclist Safety.

Extensive new program focused on reducing the number of motorcyclist fatalities and injuries. Interesting to compare with bicyclist situation.

Interesting Commissions and Reports

Presidential Commission on Alcohol Impaired Driving (Section 2020)

Infrastructure Investment Needs Report (Section 5201)

Transportation Education Development Pilot Program (Section 5204)

Transportation Research and Development Strategic Planning (Section 5208)

Future Strategic Highway Research Program (Section 5210)

ITS Advisory Committee (Section 5305)

Advisory Council on Transportation Statistics (Section 5601)

National Surface Transportation Policy and Revenue Study Commission (Section 1909)

Community Enhancement Study (Section 1925)



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