City of Auburn
Traffic Study

Presented by
Jeff Ramsey P.E.
Director of Public Works / City Engineer

Comprehensive Transportation Plan

- Automobile needs
- Pedestrian needs
- Cyclist needs
- Transit / Buses needs
- Parking needs
- Way-finding (signage) needs
- Bridge needs

Comprehensive Transportation Plan

- Traffic Study addresses many of the elements of the Comprehensive Transportation Plan
  - Intersection improvements to improve traffic movement
  - Crash Study to identify areas of improvements to reduce crashes
  - Traffic Circulation Standards to maintain existing capacity of the street network

Comprehensive Transportation Plan

- Application of the Comprehensive Transportation Plan
  - Identify future transportation projects
  - Prioritize projects based on an overview of the transportation needs
  - Develop a Transportation Capital Improvement Plan

Auburn Traffic Study

Overview

- Corridor Traffic Operational Evaluation
- Traffic Signal System Timings
- Isolated Intersections Study
- City-wide Crash Study
- Revised Long Range Transportation Plan
- Traffic Circulation Standards and Development Traffic Impact Study Requirements
- School Traffic Congestion Evaluations

Auburn Traffic Study

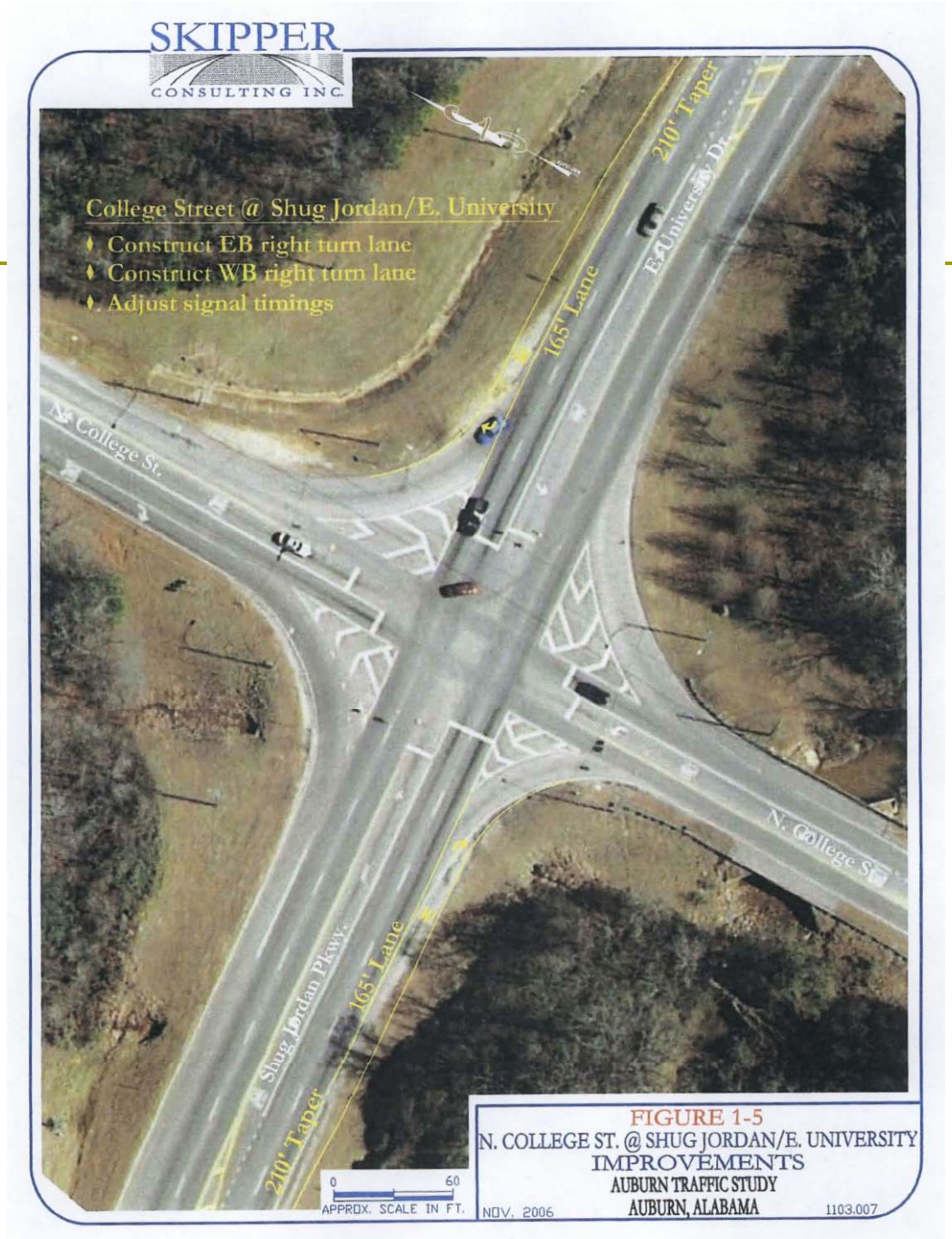
- Timeline
  - May 2005 Council approves study
  - Little work during the summer months due to students being gone
  - September 2005 traffic counts taken
  - February 2006 school traffic study completed
  - April 2006 crash study completed
  - June 2006 updated Long Range Transportation Study completed
  - August 2006 signal coordination study completed
  - September 2007 additional traffic counts taken
  - January 2008 corridor operational evaluation completed
  - January 2008 circulation standards completed

Corridor Traffic Operational Evaluation

- College Street Corridor
- Gay Street Corridor
- Samford Avenue Corridor
- Glenn Avenue Corridor
- Donahue Drive Corridor

College Street Corridor
Traffic Operational Evaluation

- Study Area
  - North College and Shug Jordan to I-85
- Areas of Study
  - Individual Intersections
  - Segments Between Intersections
  - Crash Data
- Recommendations


SKIPPER
CONSULTING INC.
College Street @ Shug Jordan/E. University
Construct EB right turn lane
Construct WB right turn lane
Adjust signal timings
210' Taper
E. University Dr.
165' Lane
N. College St.
Shug Jordan Pkwy.
165' Lane
210' Taper
N. College St.
0
60
APPROX. SCALE IN FT.
FIGURE 1-5
N. COLLEGE ST. @ SHUG JORDAN/E. UNIVERSITY
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SKIPPER
CONSULTING INC.
N. College St.
Shelton Mill Rd.
College Street @ Shelton Mill Road
Construct NB right turn lane
ONLY
N. College St.
0
50
APPROX. SCALE IN FT.
FIGURE 1-6
N. COLLEGE ST. @ SHELTON MILL RD.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
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SKIPPER
CONSULTING INC.
N. College St.
Drake Ave.
Drake Ave.
N. College St.
College Street @ Drake Avenue
♦ Construct NB left turn lane
♦ Construct SB left turn lane
0
60
APPROX. SCALE IN FT.
FIGURE 1-7
N. COLLEGE ST. @ DRAKE AVE.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
NOV. 2006
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SKIPPER
CONSULTING INC.
College Street @ Bragg Avenue
Construct SB right turn lane
Widen NB approach to provide separate left turn lane
College Street @ Mitcham Avenue
Signal timing adjustments
Widen restripe SB approach to provide two through lanes
N. College St.
Bragg Ave.
Mitcham Ave.
ONLY
0
50
APPROX. SCALE IN FT.
FIGURE 1-8
N. COLLEGE ST. @ MITCHAM AVE. /BRAGG AVE. IMPROVEMENTS
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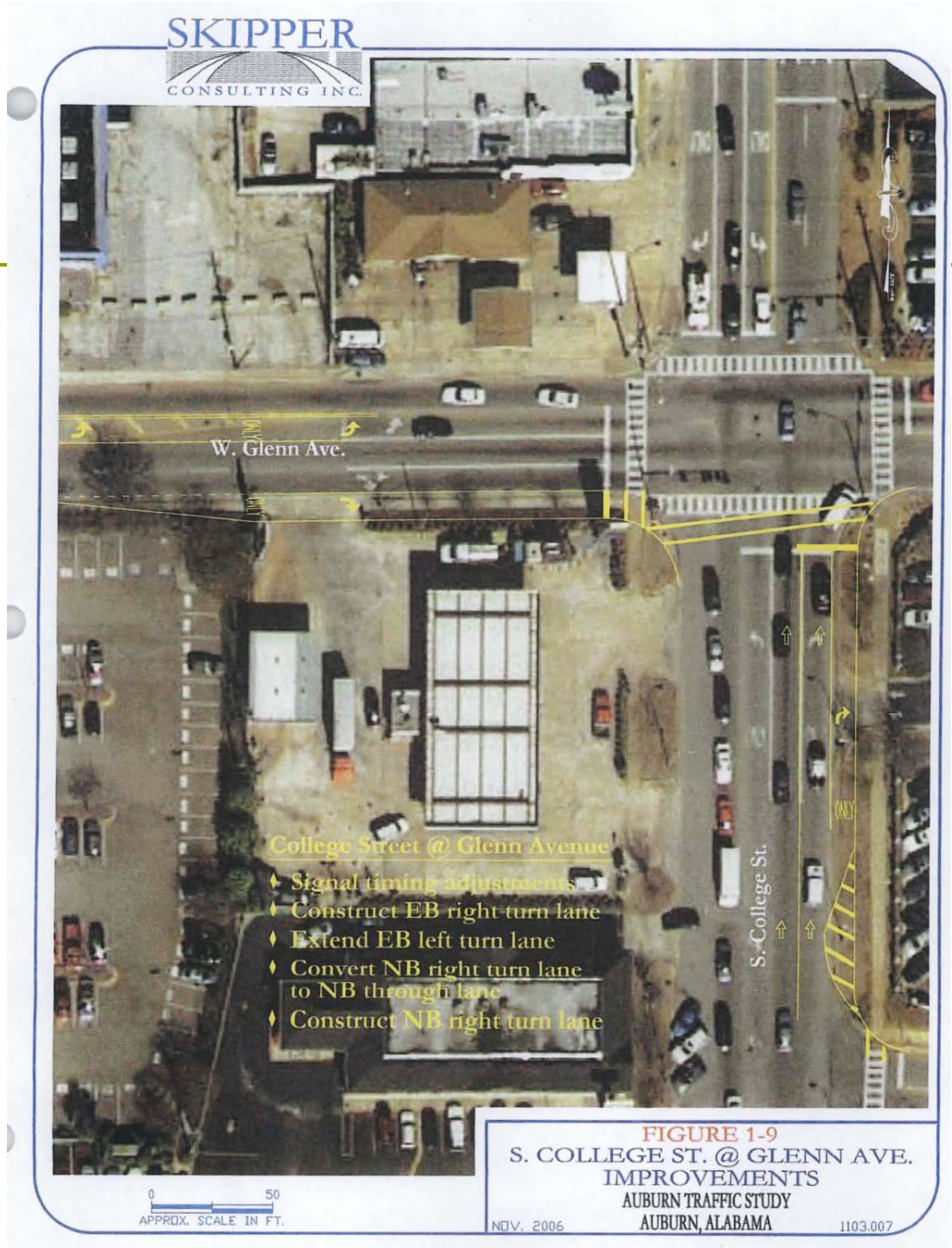
SKIPPER
CONSULTING INC.
W. Glenn Ave.
ONLY
ONLY
S. College St.
ONLY
College Street @ Glenn Avenue
Signal timing adjustments
Construct EB right turn lane
Extend EB left turn lane
Convert NB right turn lane to NB through lane
Construct NB right turn lane
0
50
APPROX. SCALE IN FT.
FIGURE 1-9
S. COLLEGE ST. @ GLENN AVE. IMPROVEMENTS
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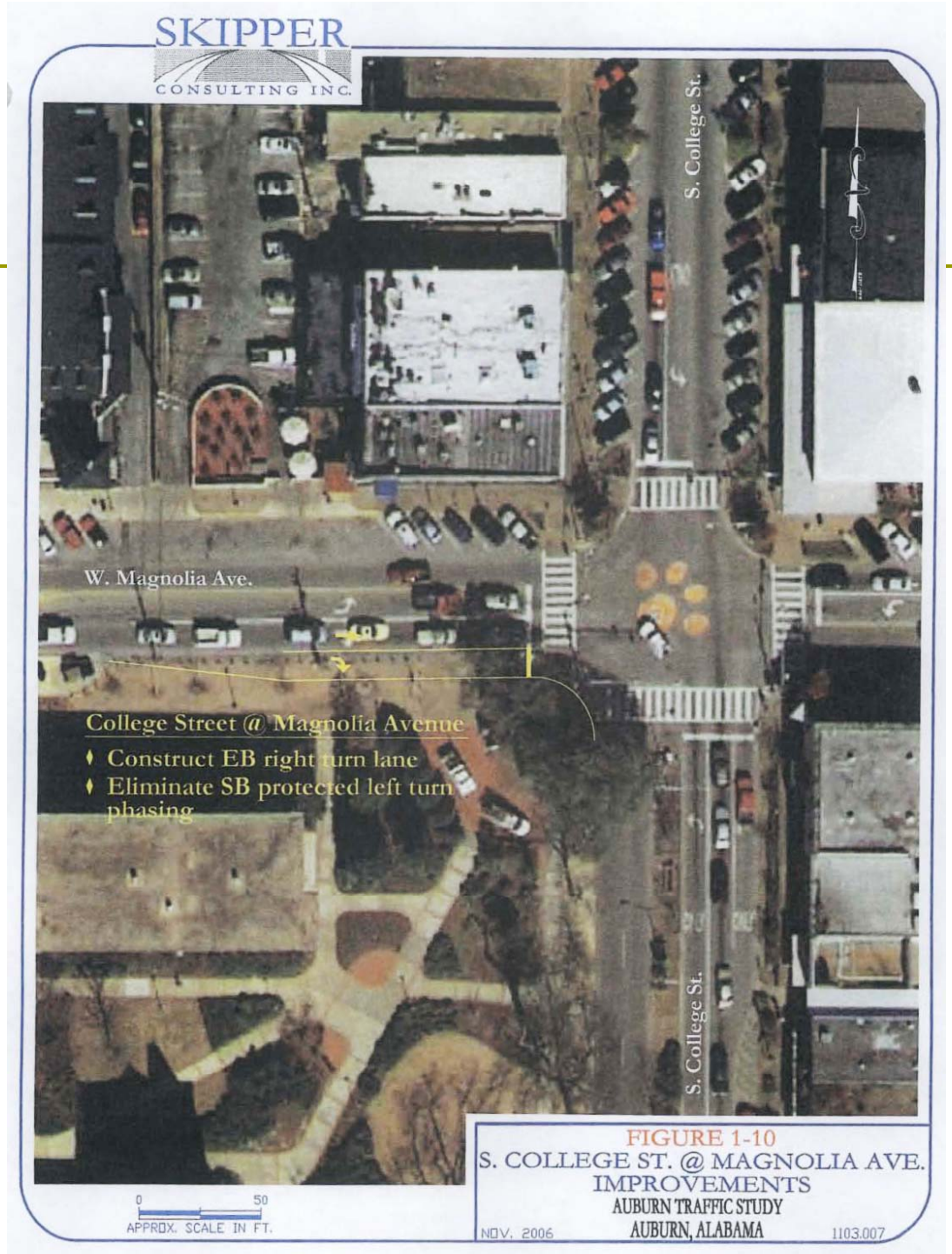
SKIPPER
CONSULTING INC.
S. College St.
W. Magnolia Ave.
College Street @ Magnolia Avenue
Construct EB right turn lane
Eliminate SB protected left turn phasing
S. College St.
0
50
APPROX. SCALE IN FT.
FIGURE 1-10
S. COLLEGE ST. @ MAGNOLIA AVE.
IMPROVEMENTS
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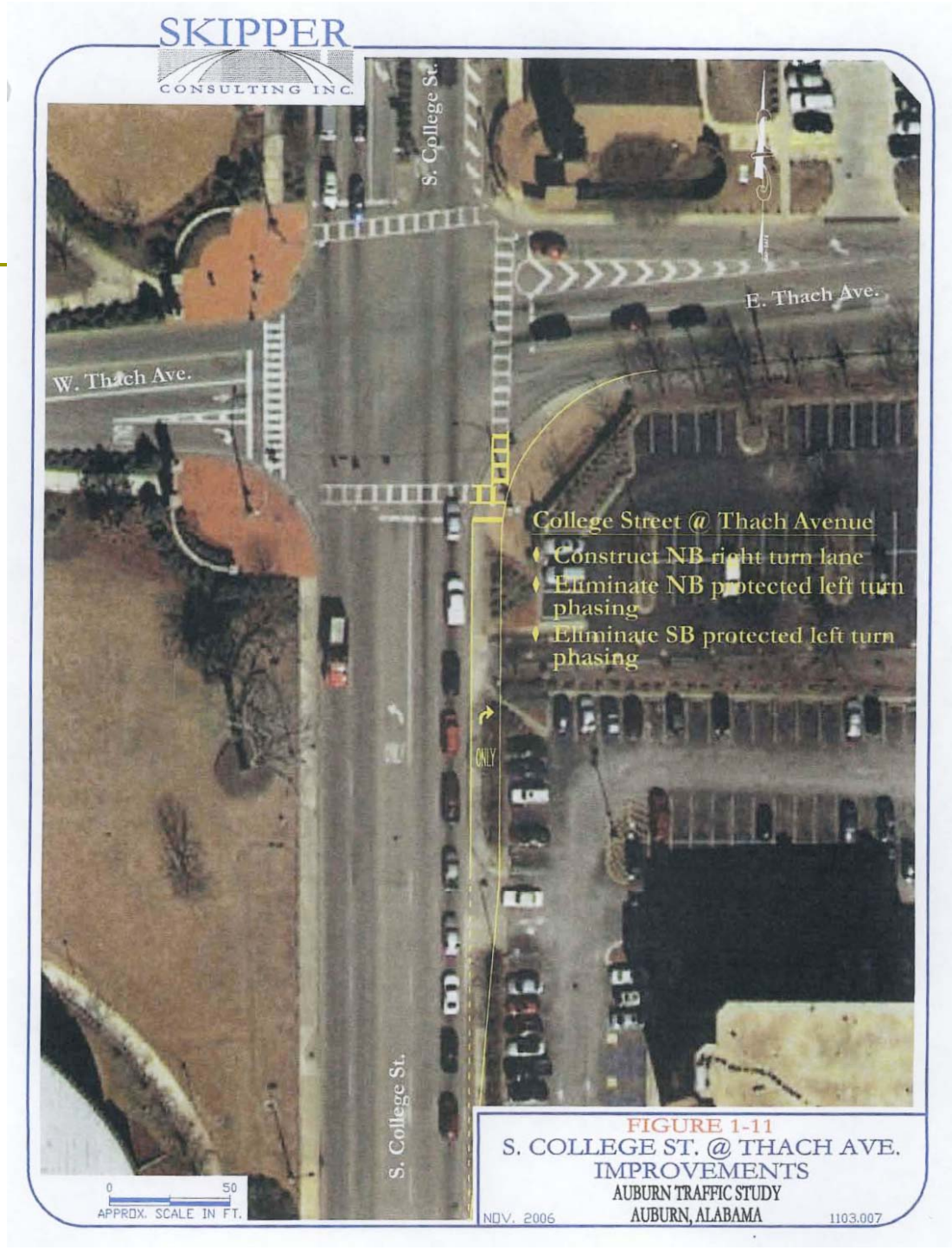
SKIPPER
CONSULTING INC.
S. College St.
E. Thach Ave.
W. Thach Ave.
College Street @ Thach Avenue
Construct NB right turn lane
Eliminate NB protected left turn phasing
Eliminate SB protected left turn phasing
ONLY
S. College St.
0
50
APPROX. SCALE IN FT.
FIGURE 1-11
S. COLLEGE ST. @ THACH AVE.
IMPROVEMENTS
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AUBURN, ALABAMA
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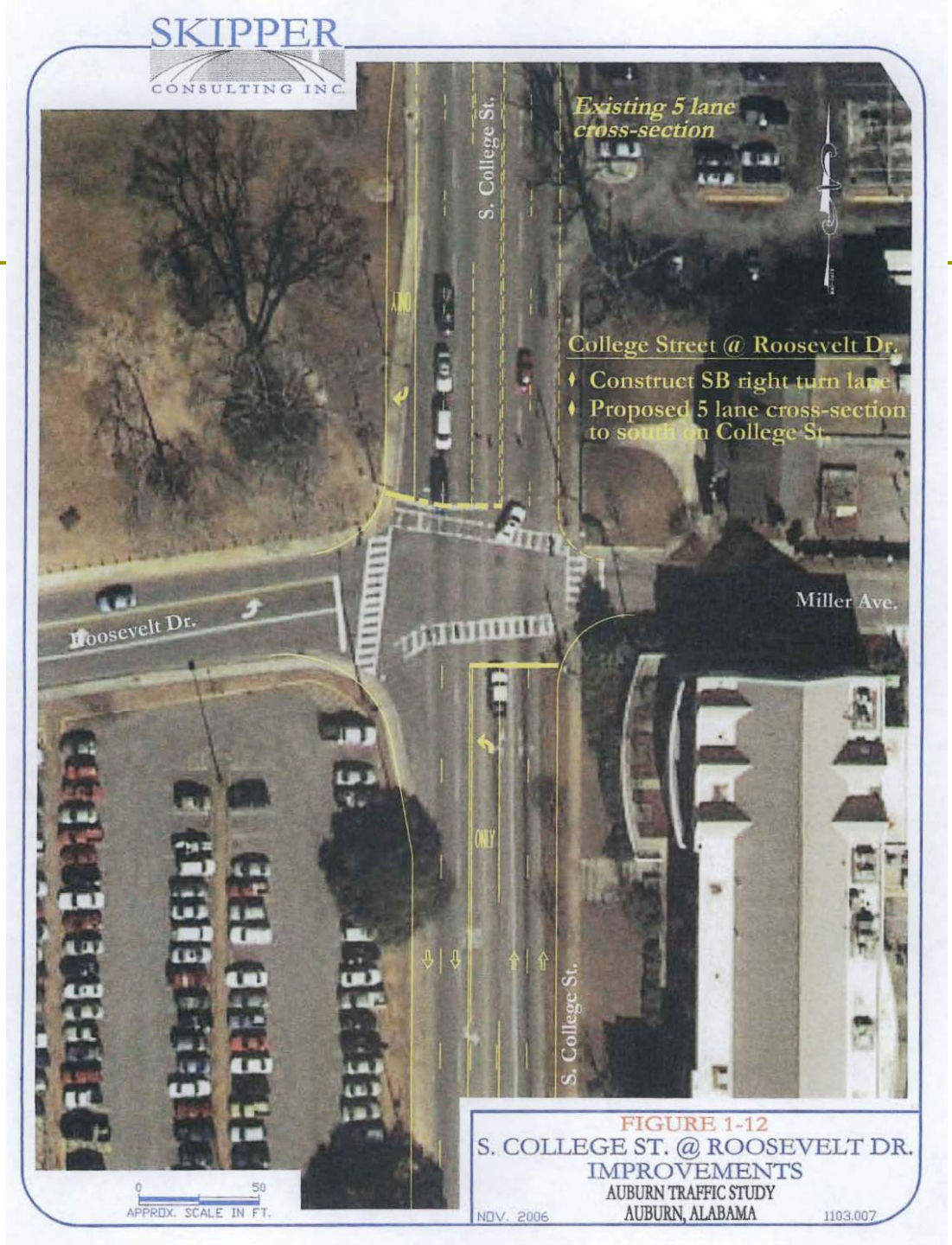
SKIPPER
CONSULTING INC.
Existing 5 lane cross-section
S. College St.
College Street @ Roosevelt Dr.
Construct SB right turn lane
Proposed 5 lane cross-section to south on College St.
Roosevelt Dr.
Miller Ave.
ONLY
S. College St.
0
50
APPROX. SCALE IN FT.
FIGURE 1-12
S. COLLEGE ST. @ ROOSEVELT DR. IMPROVEMENTS
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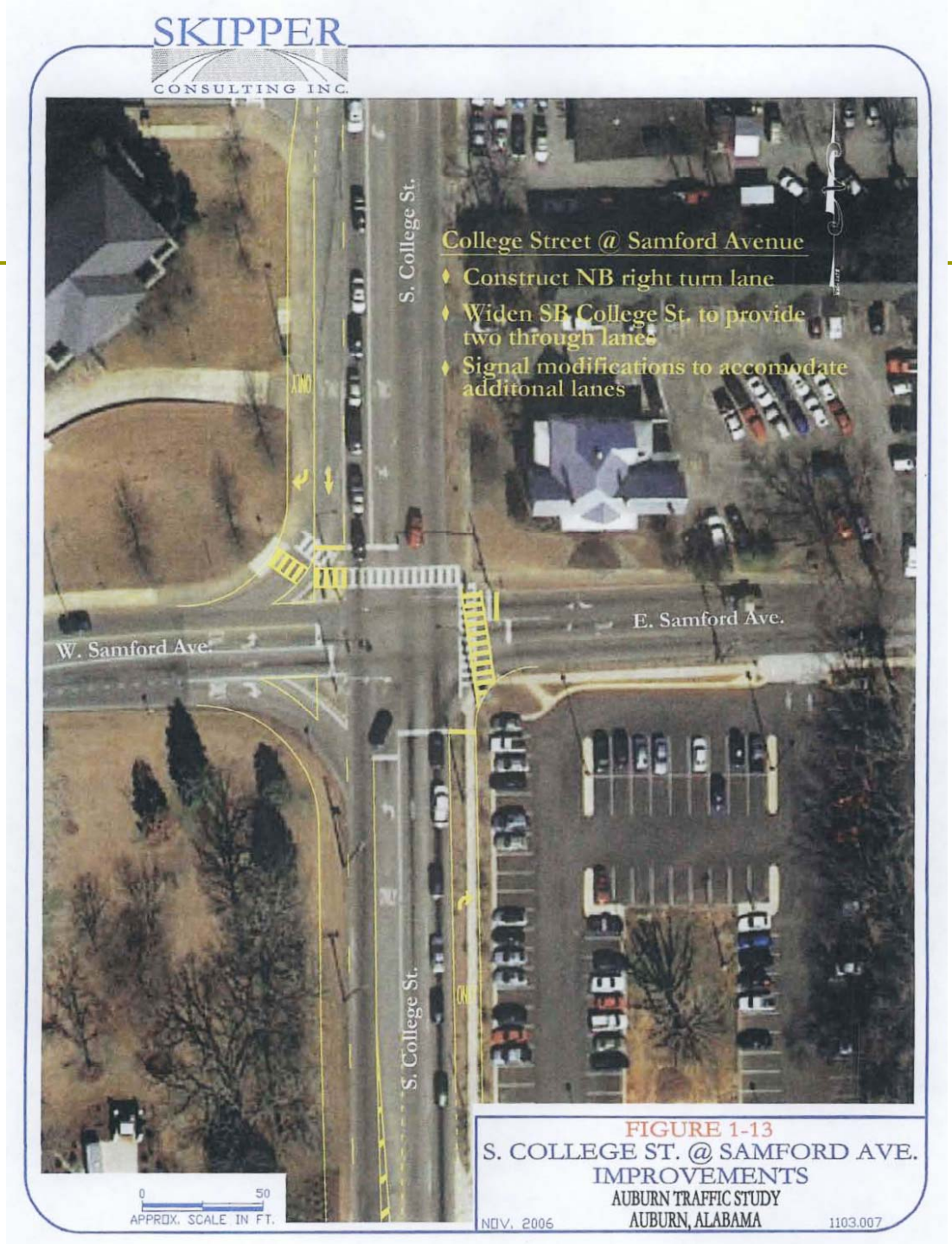
SKIPPER
CONSULTING INC.
College Street @ Samford Avenue
Construct NB right turn lane
Widen SB College St. to provide two through lanes
Signal modifications to accomodate additonal lanes
S. College St.
W. Samford Ave.
E. Samford Ave.
S. College St.
ONLY
0
50
APPROX. SCALE IN FT.
FIGURE 1-13
S. COLLEGE ST. @ SAMFORD AVE.
IMPROVEMENTS
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SKIPPER
CONSULTING INC.
College Street @ Woodfield Dr.
Construct SB left turn lane
Construct NB right turn lane
Provide NB left turn lane by extending the current 5 lane cross section from the south
S. College St.
Woodfield Dr.
Woodfield Dr.
S. College St.
0
60
APPROX. SCALE IN FT.
FIGURE 1-14
S. COLLEGE ST. @ WOODFIELD DR. IMPROVEMENTS
AUBURN TRAFFIC STUDY
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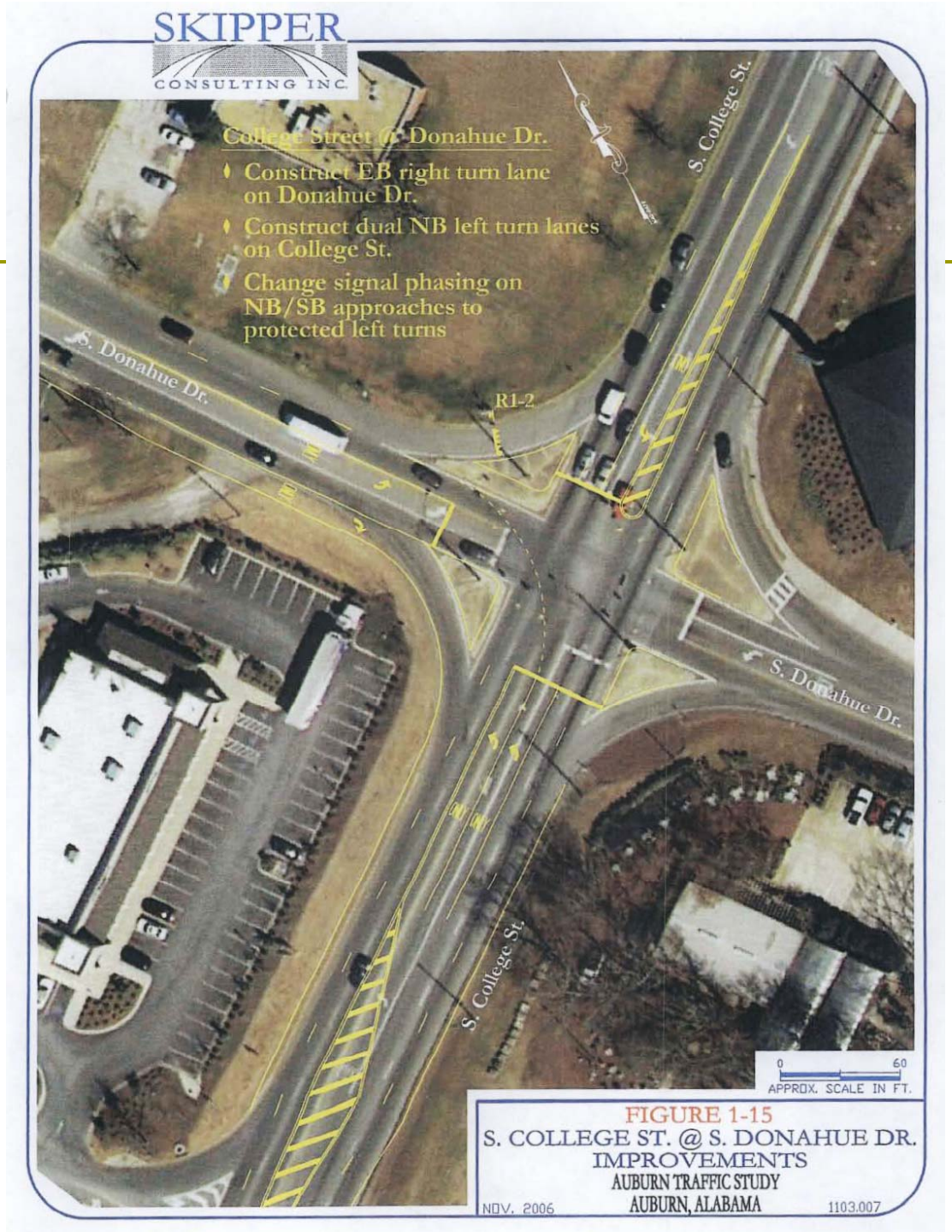
SKIPPER
CONSULTING INC.
College Street @ Donahue Dr.
Construct EB right turn lane on Donahue Dr.
Construct dual NB left turn lanes on College St.
Change signal phasing on NB/SB approaches to protected left turns
S. College St.
S. Donahue Dr.
R1-2
S. Donahue Dr.
S. College St.
0
60
APPROX. SCALE IN FT.
FIGURE 1-15
S. COLLEGE ST. @ S. DONAHUE DR.
IMPROVEMENTS
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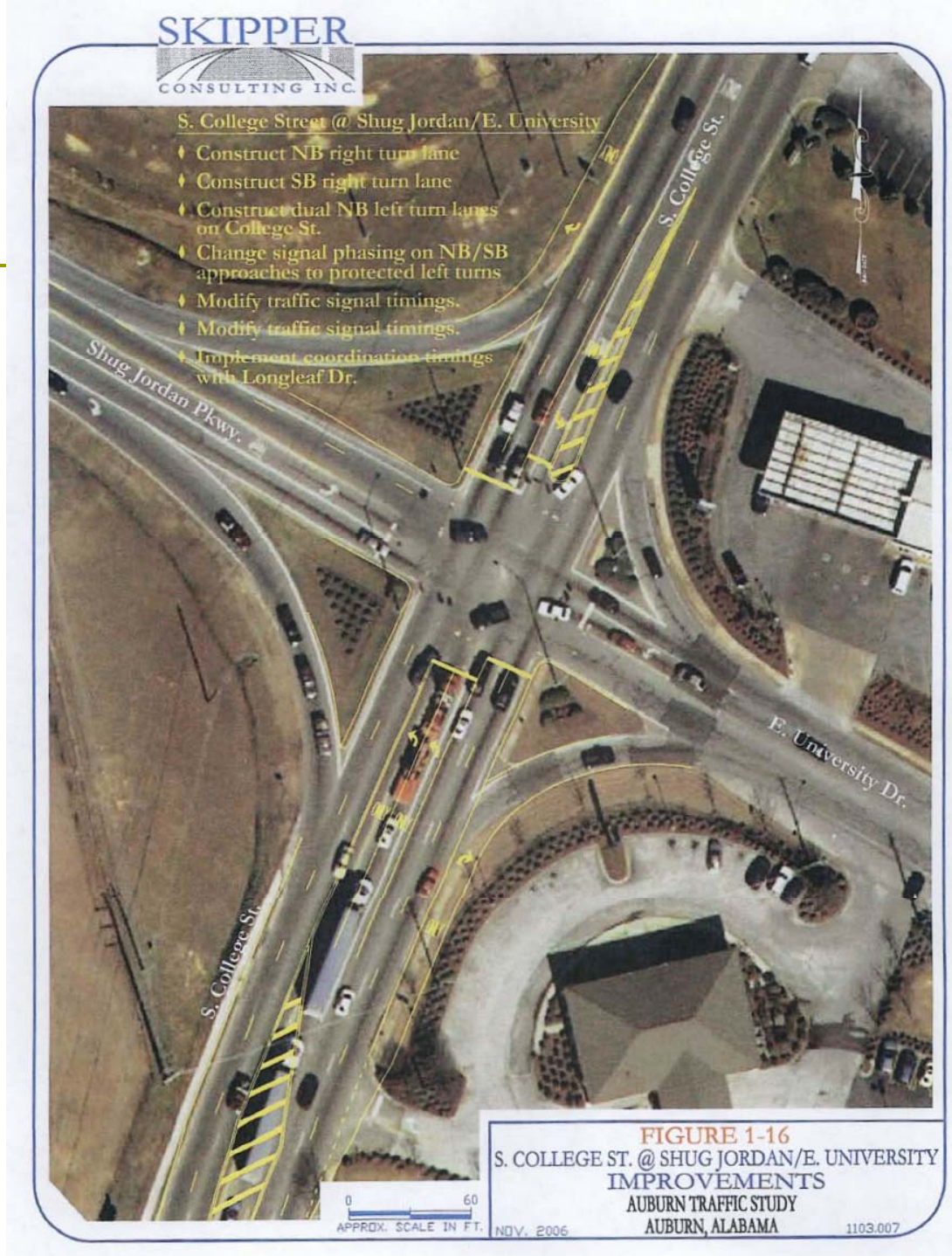
SKIPPER
CONSULTING INC.
S. College Street @ Shug Jordan/E. University
Construct NB right turn lane
Construct SB right turn lane
Construct dual NB left turn lanes on College St.
Change signal phasing on NB/SB approaches to protected left turns
Modify traffic signal timings.
Modify traffic signal timings.
Implement coordination timings with Longleaf Dr.
S. College St.
Shug Jordan Pkwy.
E. University Dr.
S. College St.
0
60
APPROX. SCALE IN FT.
FIGURE 1-16
S. COLLEGE ST. @ SHUG JORDAN/E. UNIVERSITY
IMPROVEMENTS
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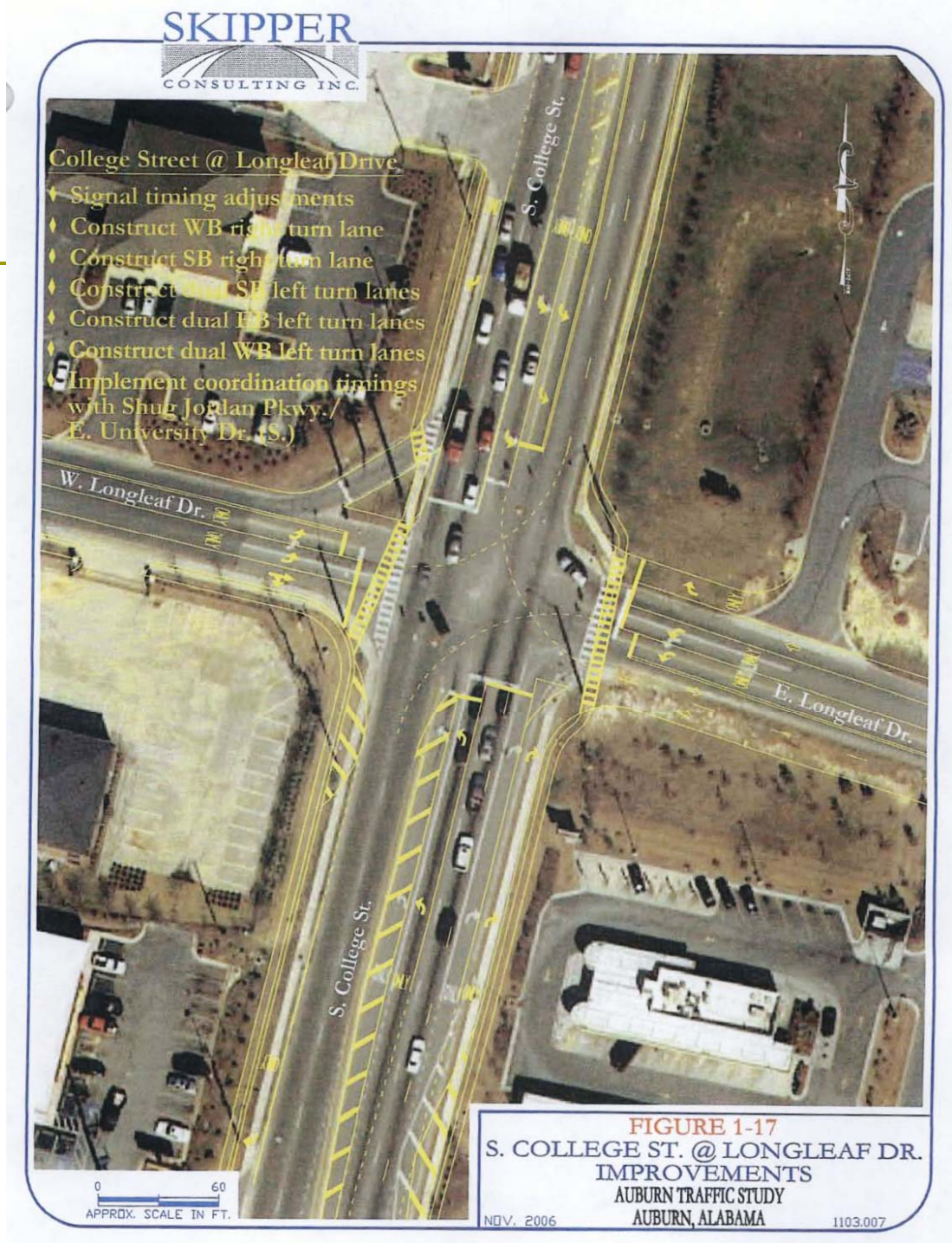
SKIPPER
CONSULTING INC.
College Street @ Longleaf Drive
Signal timing adjustments
Construct WB right turn lane
Construct SB right turn lane
Construct dual SB left turn lanes
Construct dual EB left turn lanes
Construct dual WB left turn lanes
Implement coordination timings with Shug Jordan Pkwy./ E. University Dr. (S.)
S. College St.
W. Longleaf Dr.
E. Longleaf Dr.
S. College St.
0
60
APPROX. SCALE IN FT.
FIGURE 1-17
S. COLLEGE ST. @ LONGLEAF DR.
IMPROVEMENTS
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NOV. 2006
AUBURN, ALABAMA
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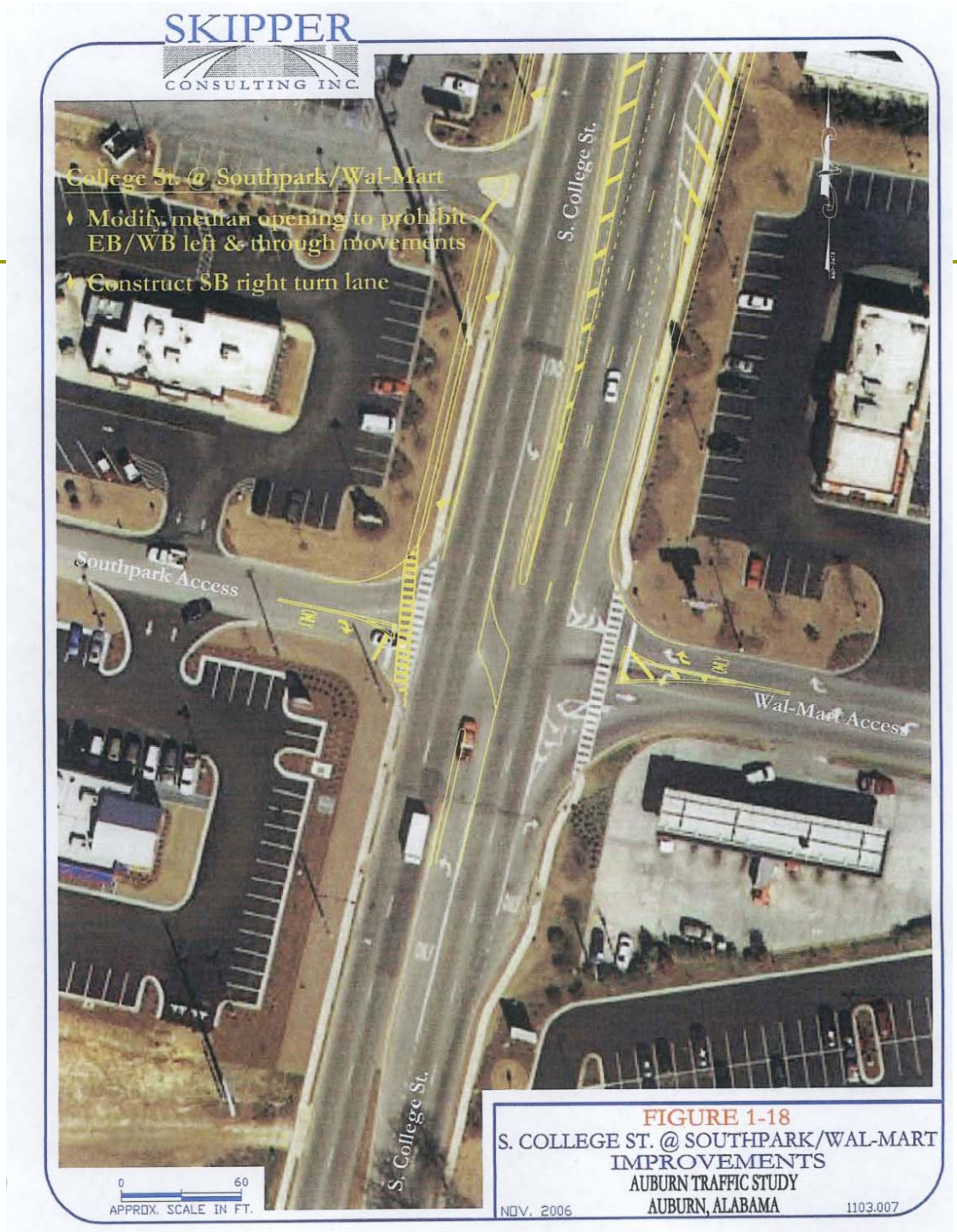
SKIPPER
CONSULTING INC.
College St. @ Southpark/Wal-Mart
Modify median opening to prohibit EB/WB left & through movements
Construct SB right turn lane
S. College St.
Southpark Access
Wal-Mart Access
S. College St.
0
60
APPROX. SCALE IN FT.
FIGURE 1-18
S. COLLEGE ST. @ SOUTHPARK/WAL-MART
IMPROVEMENTS
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SKIPPER
CONSULTING INC.
College Street @ Veterans Boulevard
♦ Construct SB right turn lane
♦ Implement coordination timings with I-85 ramp intersection
S. College St.
Veterans Blvd.
S. College St.
0
50
APPROX. SCALE IN FT.
FIGURE 1-19
S. COLLEGE ST. @ VETERANS BLVD. IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
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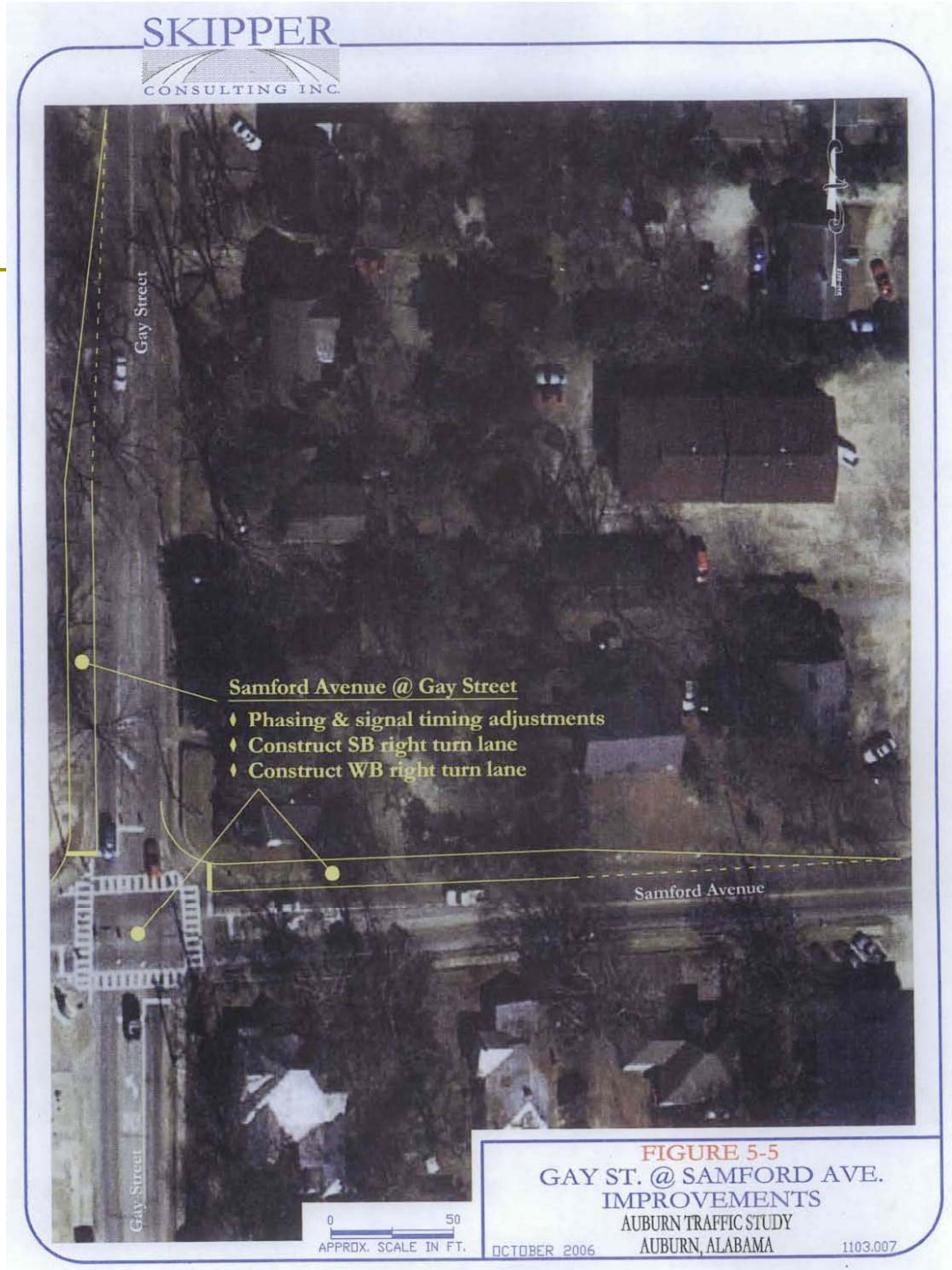
Gay Street Corridor
Traffic Operational Evaluation

- Study Area
  - Samford Avenue to Opelika Road
- Areas of Study
  - Individual Intersections
  - Segments Between Intersections
  - Crash Data
- Recommendations


SKIPPER
CONSULTING INC.
Gay Street
Samford Avenue @ Gay Street
Phasing & signal timing adjustments
Construct SB right turn lane
Construct WB right turn lane
Samford Avenue
Gay Street
0
50
APPROX. SCALE IN FT.
FIGURE 5-5
GAY ST. @ SAMFORD AVE.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
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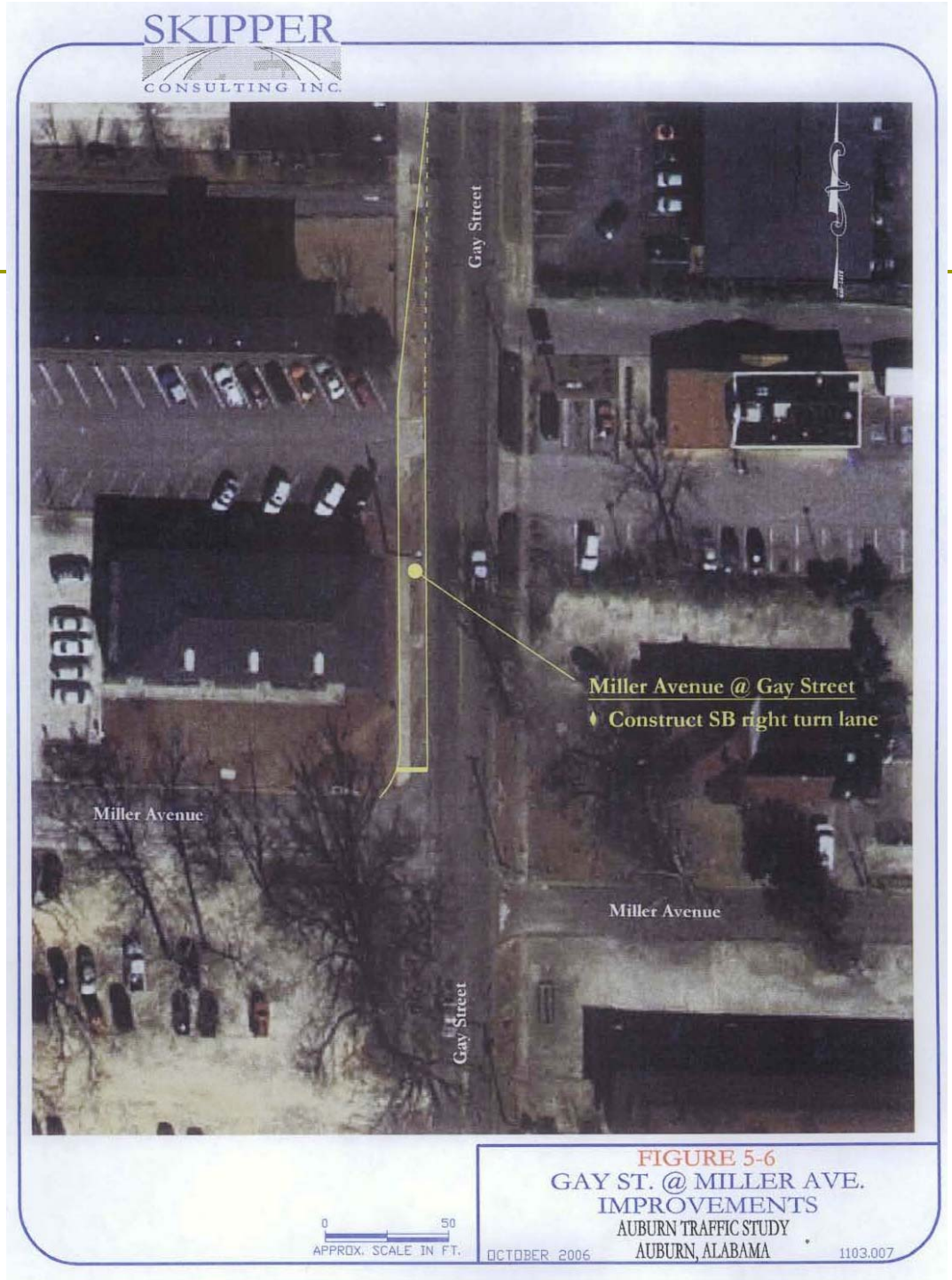
SKIPPER
CONSULTING INC.
Gay Street
Miller Avenue @ Gay Street
Construct SB right turn lane
Miller Avenue
Miller Avenue
Gay Street
0
50
APPROX. SCALE IN FT.
FIGURE 5-6
GAY ST. @ MILLER AVE.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
OCTOBER 2006
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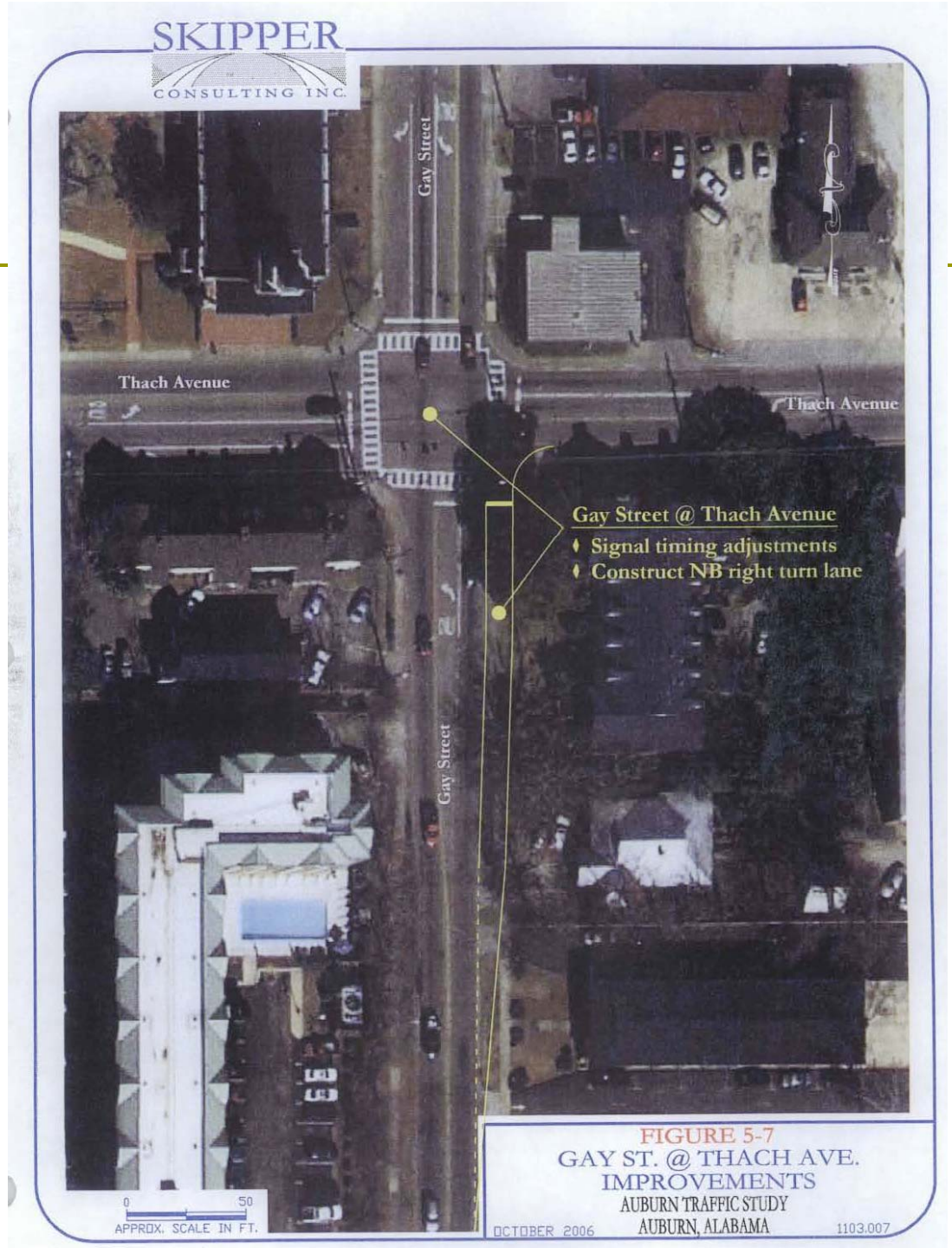
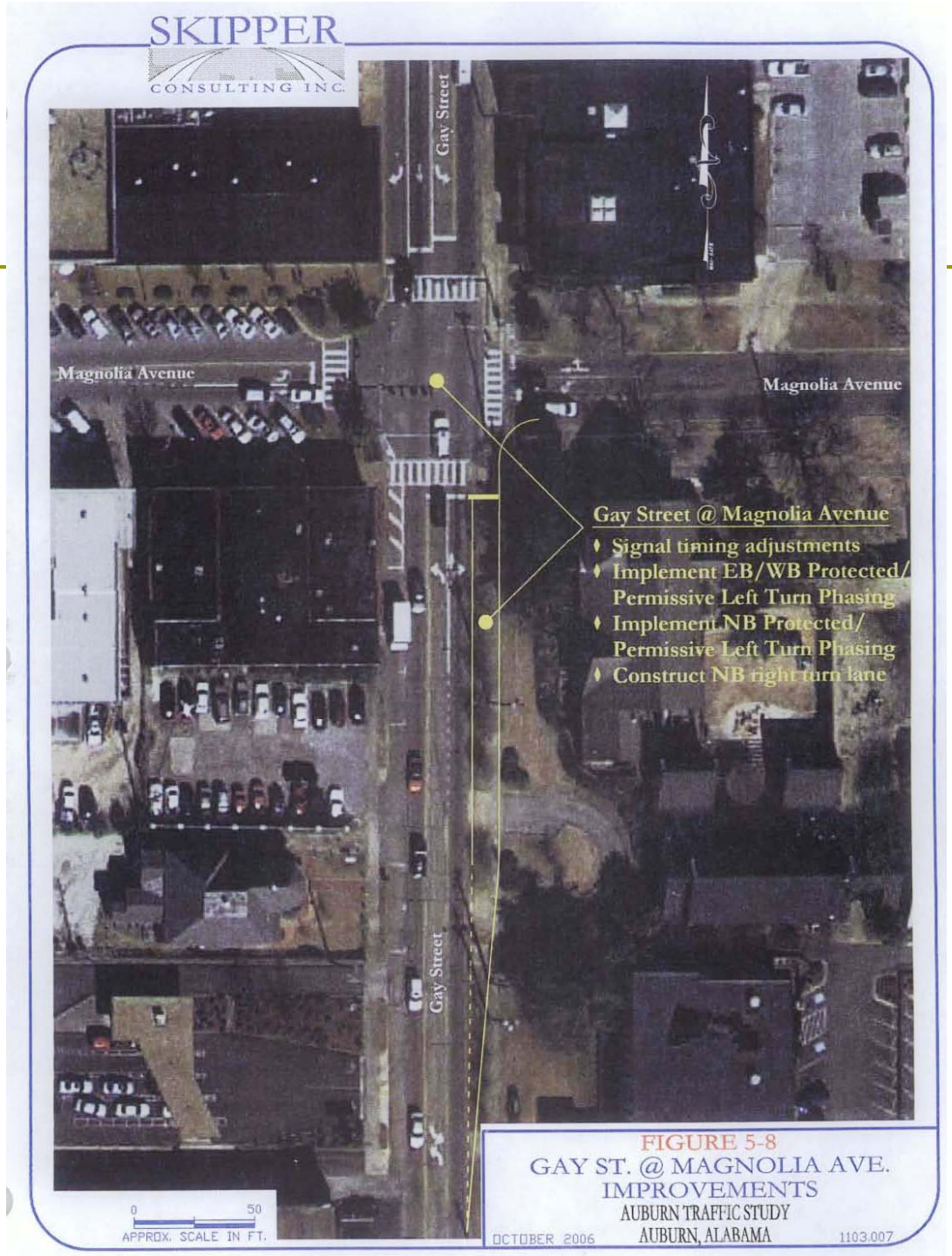
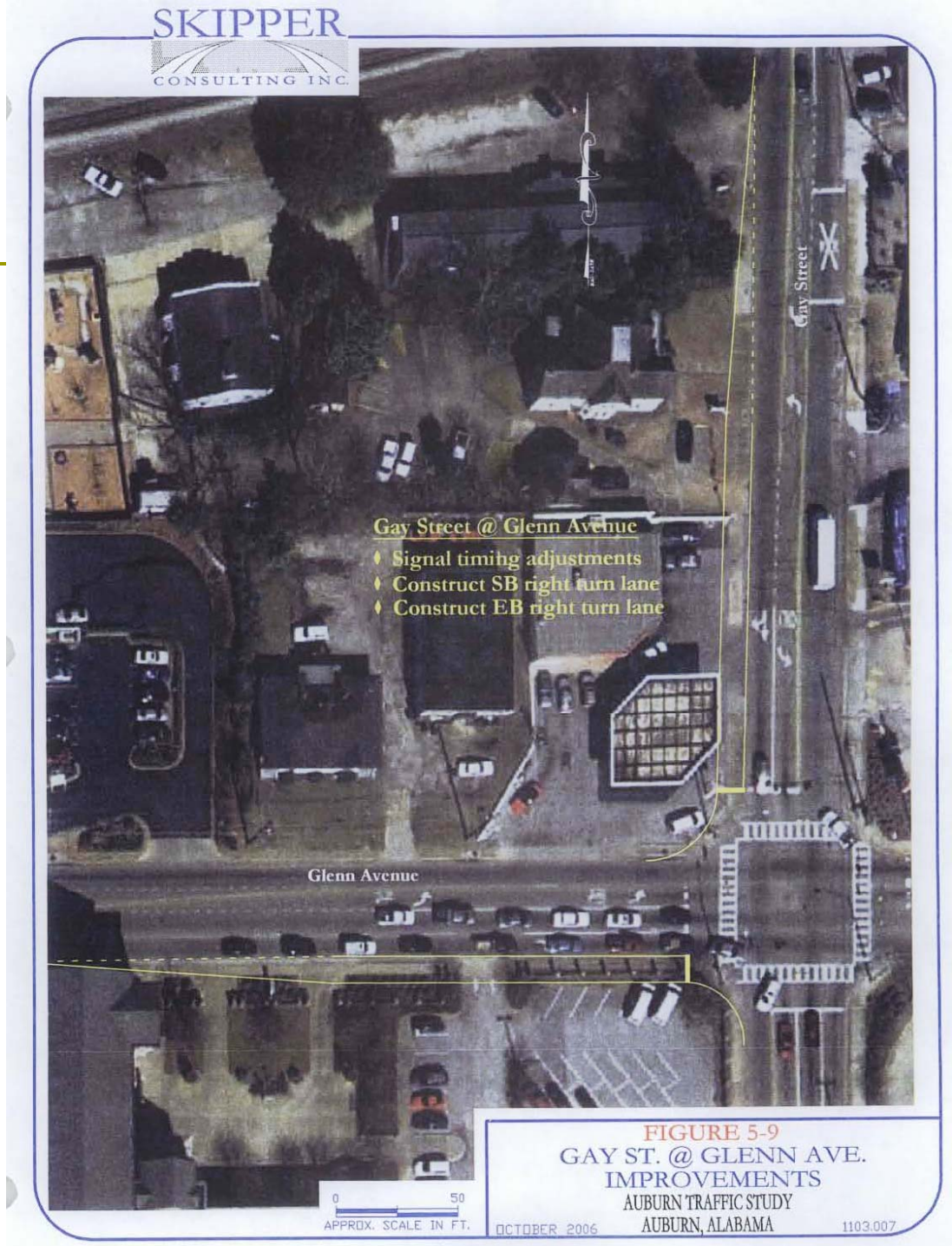
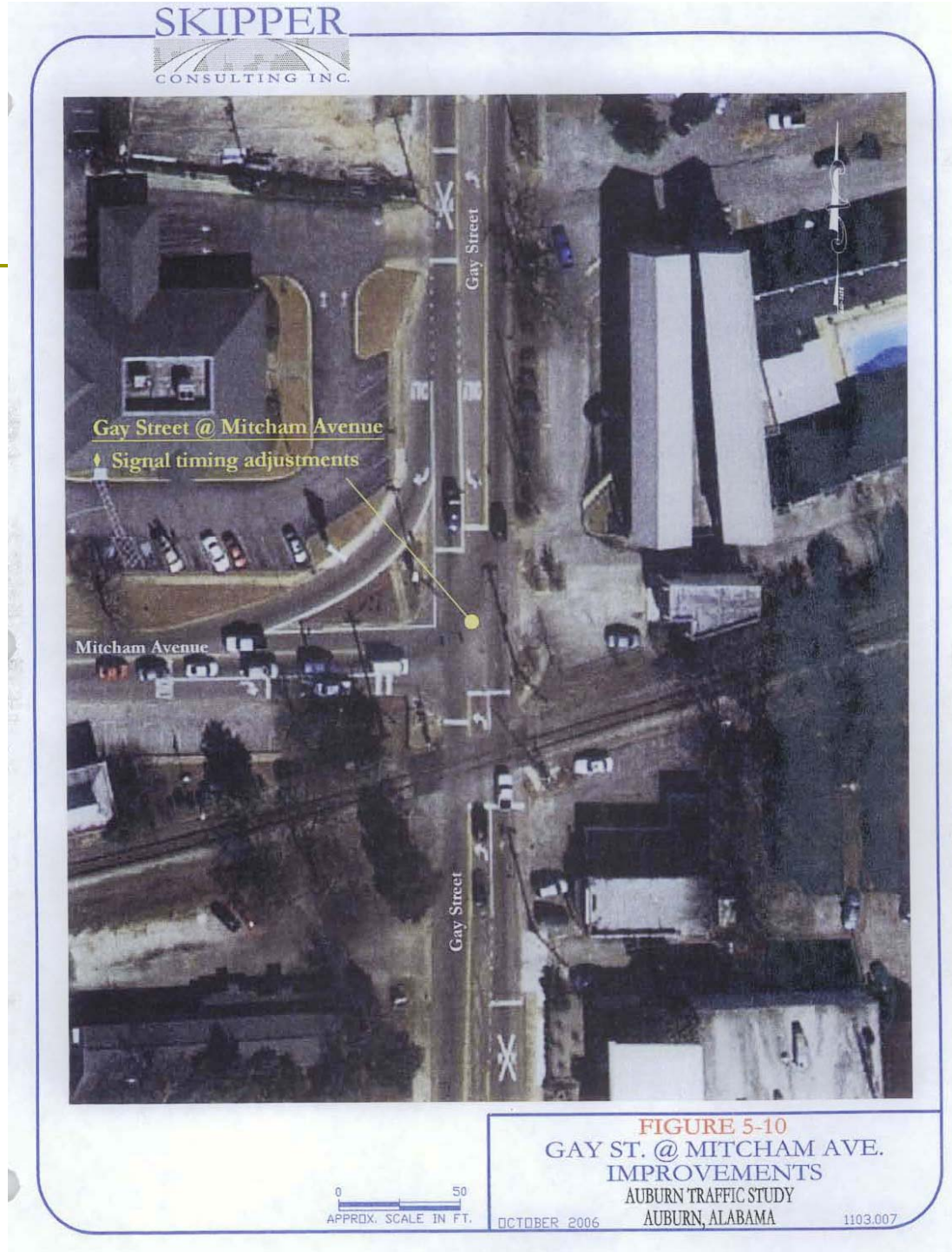
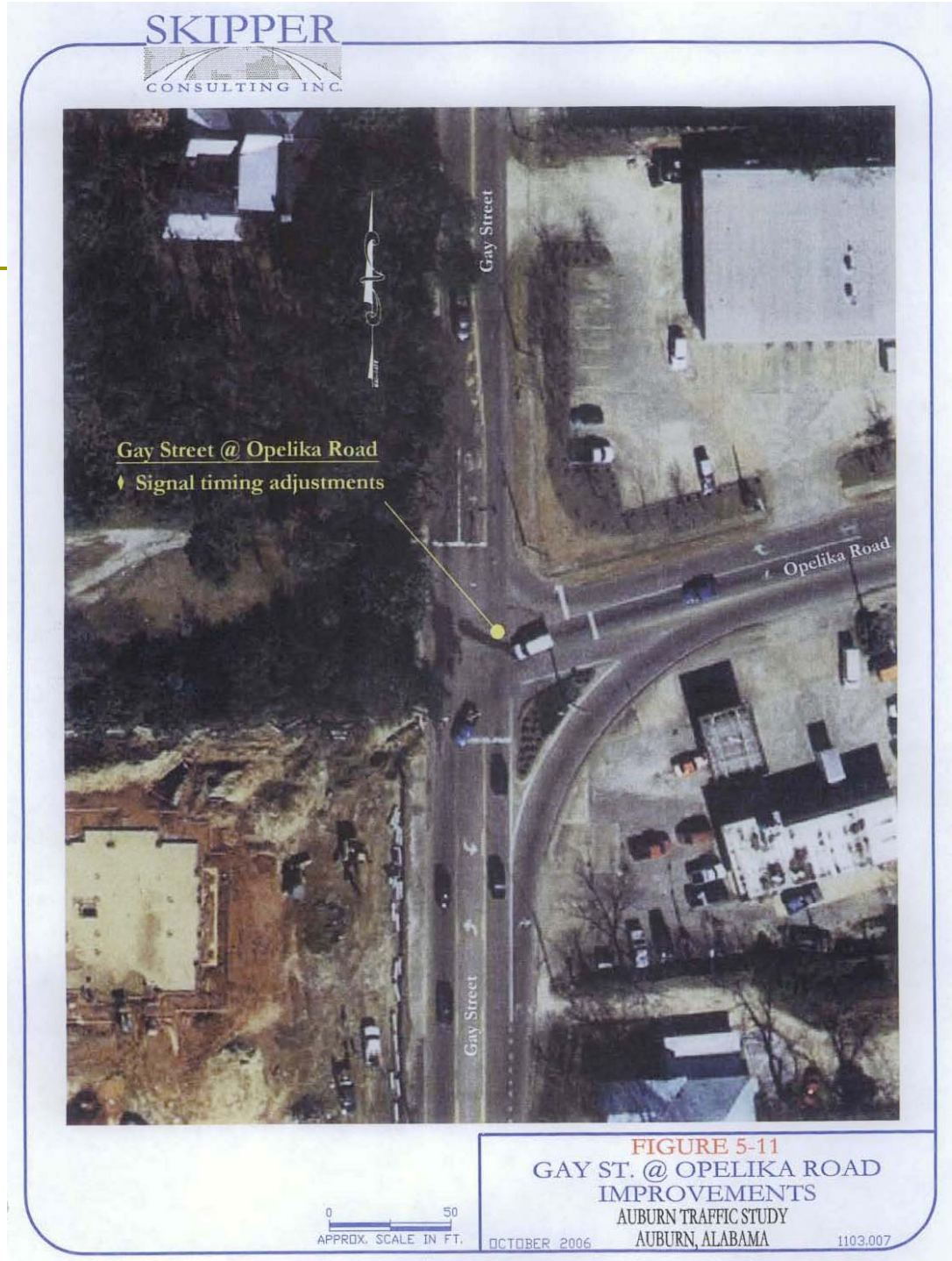

SKIPPER
CONSULTING INC.
Gay Street
Thach Avenue
Thach Avenue
Gay Street @ Thach Avenue
Signal timing adjustments
Construct NB right turn lane
Gay Street
0
50
APPROX. SCALE IN FT.
FIGURE 5-7
GAY ST. @ THACH AVE.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
OCTOBER 2006
1103.007


SKIPPER
CONSULTING INC.
Gay Street
Magnolia Avenue
Magnolia Avenue
Gay Street @ Magnolia Avenue
Signal timing adjustments
Implement EB/WB Protected/ Permissive Left Turn Phasing
Implement NB Protected/ Permissive Left Turn Phasing
Construct NB right turn lane
Gay Street
0
50
APPROX. SCALE IN FT.
FIGURE 5-8
GAY ST. @ MAGNOLIA AVE. IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
OCTOBER 2006
1103.007

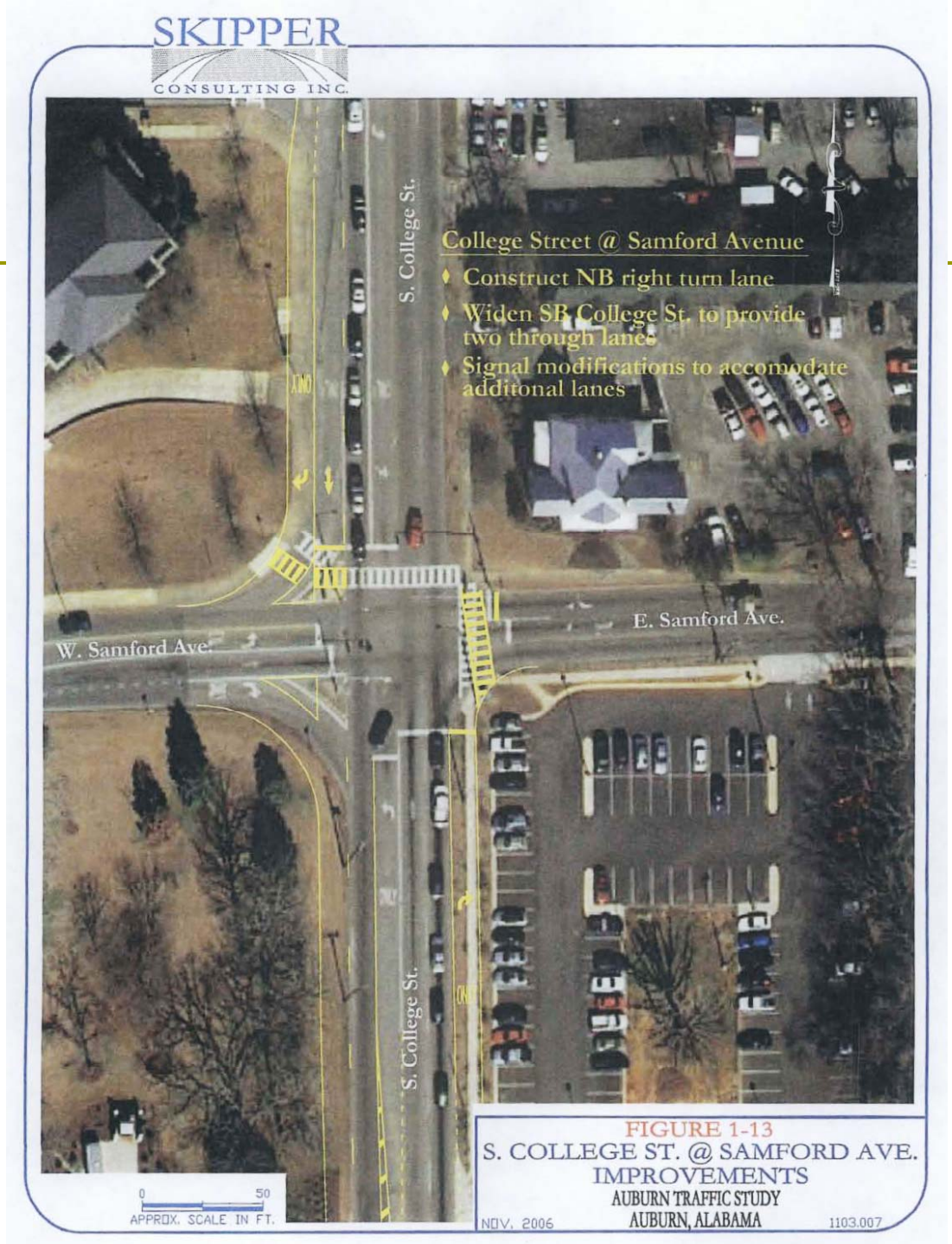

SKIPPER
CONSULTING INC.
Gay Street
Gay Street @ Glenn Avenue
♦ Signal timing adjustments
♦ Construct SB right turn lane
♦ Construct EB right turn lane
Glenn Avenue
0
50
APPROX. SCALE IN FT.
FIGURE 5-9
GAY ST. @ GLENN AVE.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
OCTOBER 2006
1103.007


SKIPPER
CONSULTING INC.
Gay Street
Gay Street @ Mitcham Avenue
Signal timing adjustments
Mitcham Avenue
Gay Street
0
50
APPROX. SCALE IN FT.
FIGURE 5-10
GAY ST. @ MITCHAM AVE.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
OCTOBER 2006
AUBURN, ALABAMA
1103.007


SKIPPER
CONSULTING INC.
Gay Street
Gay Street @ Opelika Road
Signal timing adjustments
Opelika Road
Gay Street
0
50
APPROX. SCALE IN FT.
FIGURE 5-11
GAY ST. @ OPELIKA ROAD
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
OCTOBER 2006
1103.007

Samford Avenue Corridor
Traffic Operational Evaluation

- Study Area
  - South College Street to East University Drive
- Areas of Study
  - Individual Intersections
  - Segments Between Intersections
  - Crash Data
- Recommendations


SKIPPER
CONSULTING INC.
College Street @ Samford Avenue
Construct NB right turn lane
Widen SB College St. to provide two through lanes
Signal modifications to accomodate additonal lanes
S. College St.
W. Samford Ave.
E. Samford Ave.
S. College St.
ONLY
0
50
APPROX. SCALE IN FT.
FIGURE 1-13
S. COLLEGE ST. @ SAMFORD AVE.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
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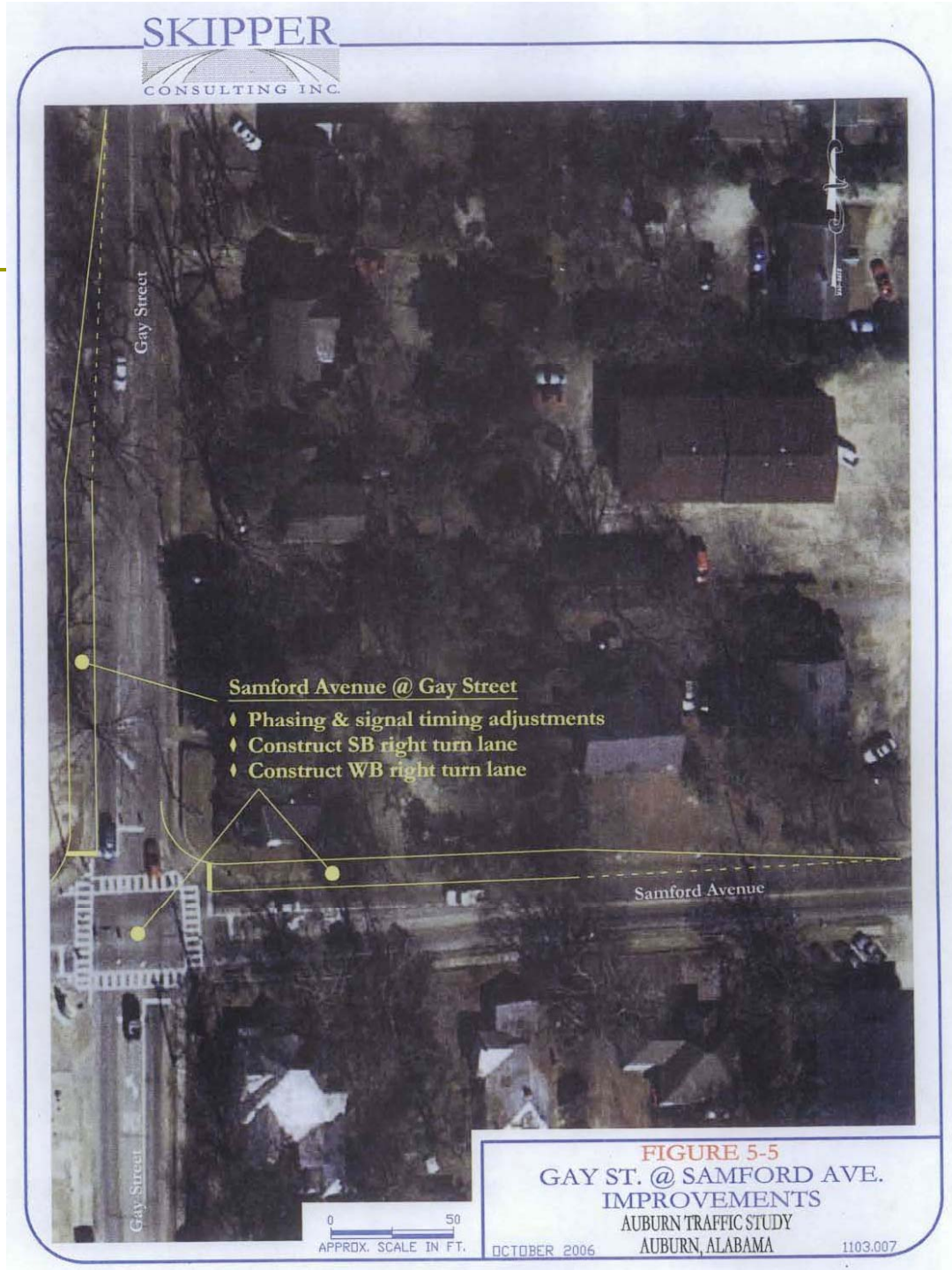
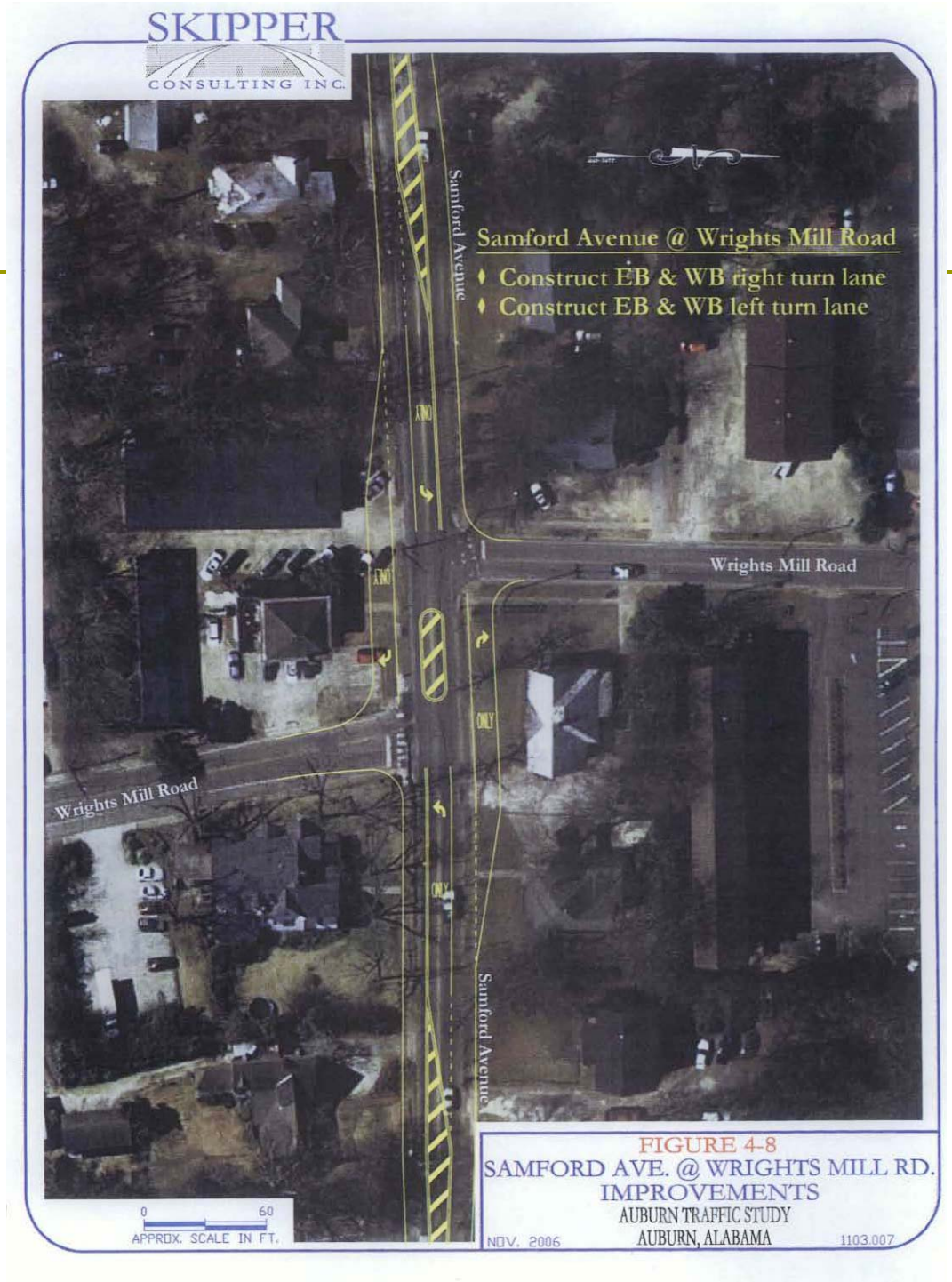
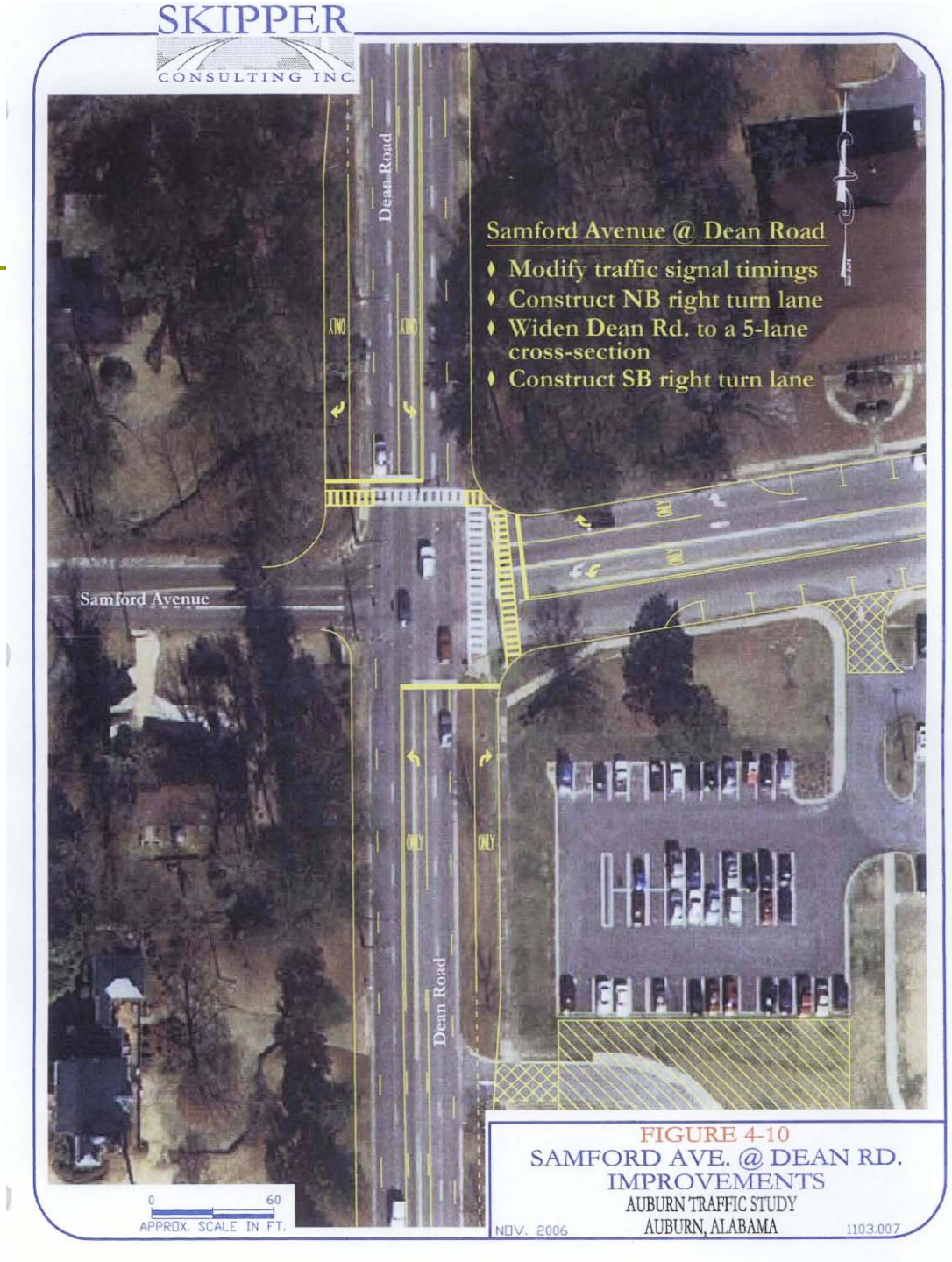

SKIPPER
CONSULTING INC.
Gay Street
Samford Avenue @ Gay Street
Phasing & signal timing adjustments
Construct SB right turn lane
Construct WB right turn lane
Samford Avenue
Gay Street
0
50
APPROX. SCALE IN FT.
FIGURE 5-5
GAY ST. @ SAMFORD AVE.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
OCTOBER 2006
1103.007

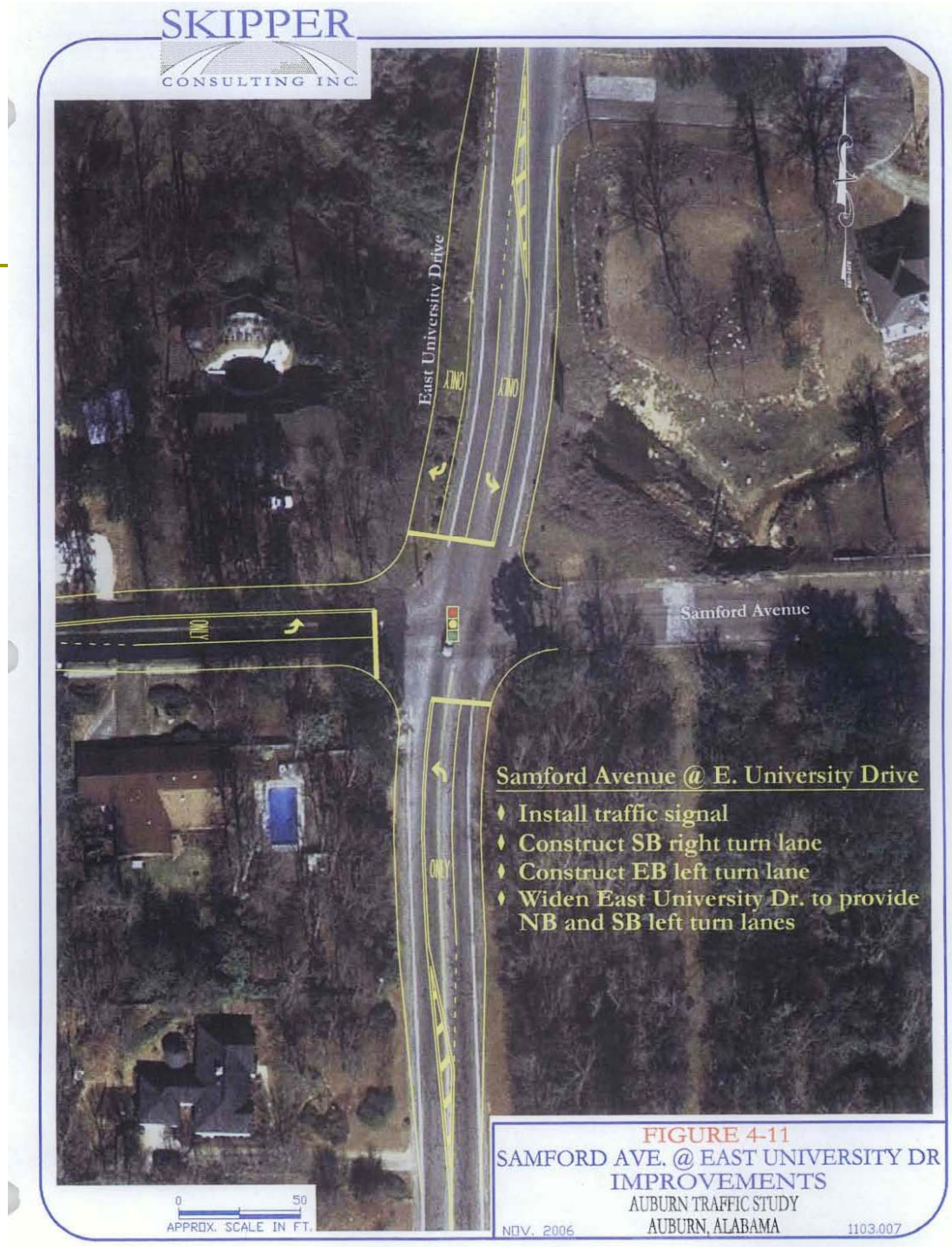

SKIPPER
CONSULTING INC.
Samford Avenue @ Wrights Mill Road
Construct EB & WB right turn lane
Construct EB & WB left turn lane
Samford Avenue
Wrights Mill Road
Wrights Mill Road
Samford Avenue
ONLY
ONLY
ONLY
0
60
APPROX. SCALE IN FT.
FIGURE 4-8
SAMFORD AVE. @ WRIGHTS MILL RD.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
NOV. 2006
1103.007

SKIPPER
CONSULTING INC.

0 100
APPROX. SCALE IN FT.

FIGURE 4-9
SAMFORD AVE. @ MOORES MILL RD.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
NOV. 2006
1103.007


SKIPPER
CONSULTING INC.
Dean Road
Samford Avenue @ Dean Road
Modify traffic signal timings
Construct NB right turn lane
Widen Dean Rd. to a 5-lane cross-section
Construct SB right turn lane
Samford Avenue
Dean Road
0
60
APPROX. SCALE IN FT.
FIGURE 4-10
SAMFORD AVE. @ DEAN RD.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
NOV. 2006
1103.007


SKIPPER
CONSULTING INC.
East University Drive
ONLY
ONLY
ONLY
ONLY
Samford Avenue
Samford Avenue @ E. University Drive
♦ Install traffic signal
♦ Construct SB right turn lane
♦ Construct EB left turn lane
♦ Widen East University Dr. to provide NB and SB left turn lanes
0
50
APPROX. SCALE IN FT.
FIGURE 4-11
SAMFORD AVE. @ EAST UNIVERSITY DR IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
NOV. 2006
1103.007

Glenn Avenue Corridor
Traffic Operational Evaluation

- Study Area
  - Donahue Drive to College Street
- Areas of Study
  - Individual Intersections
  - Segments Between Intersections
  - Crash Data
- Recommendations

SKIPPER
CONSULTING INC.

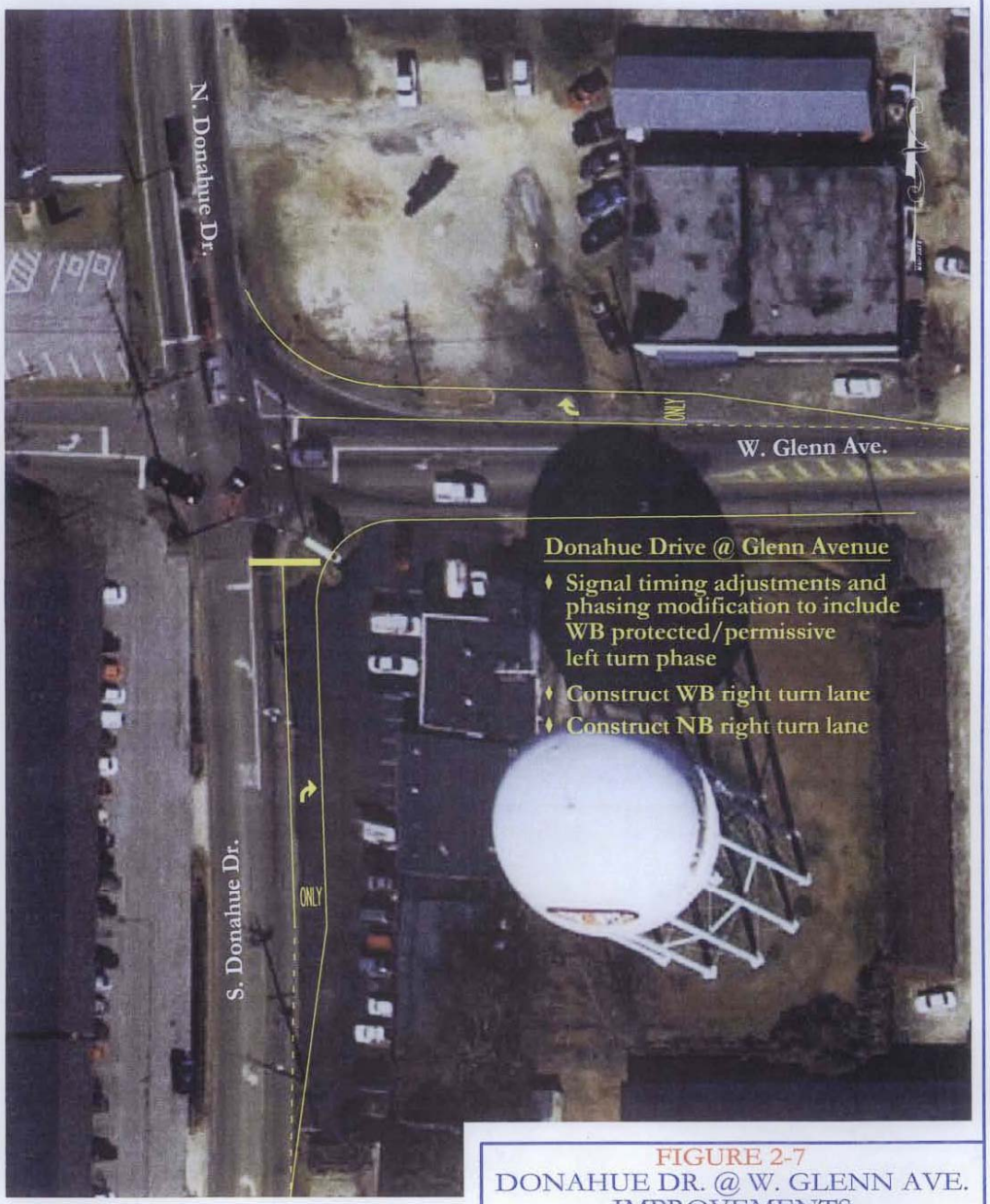
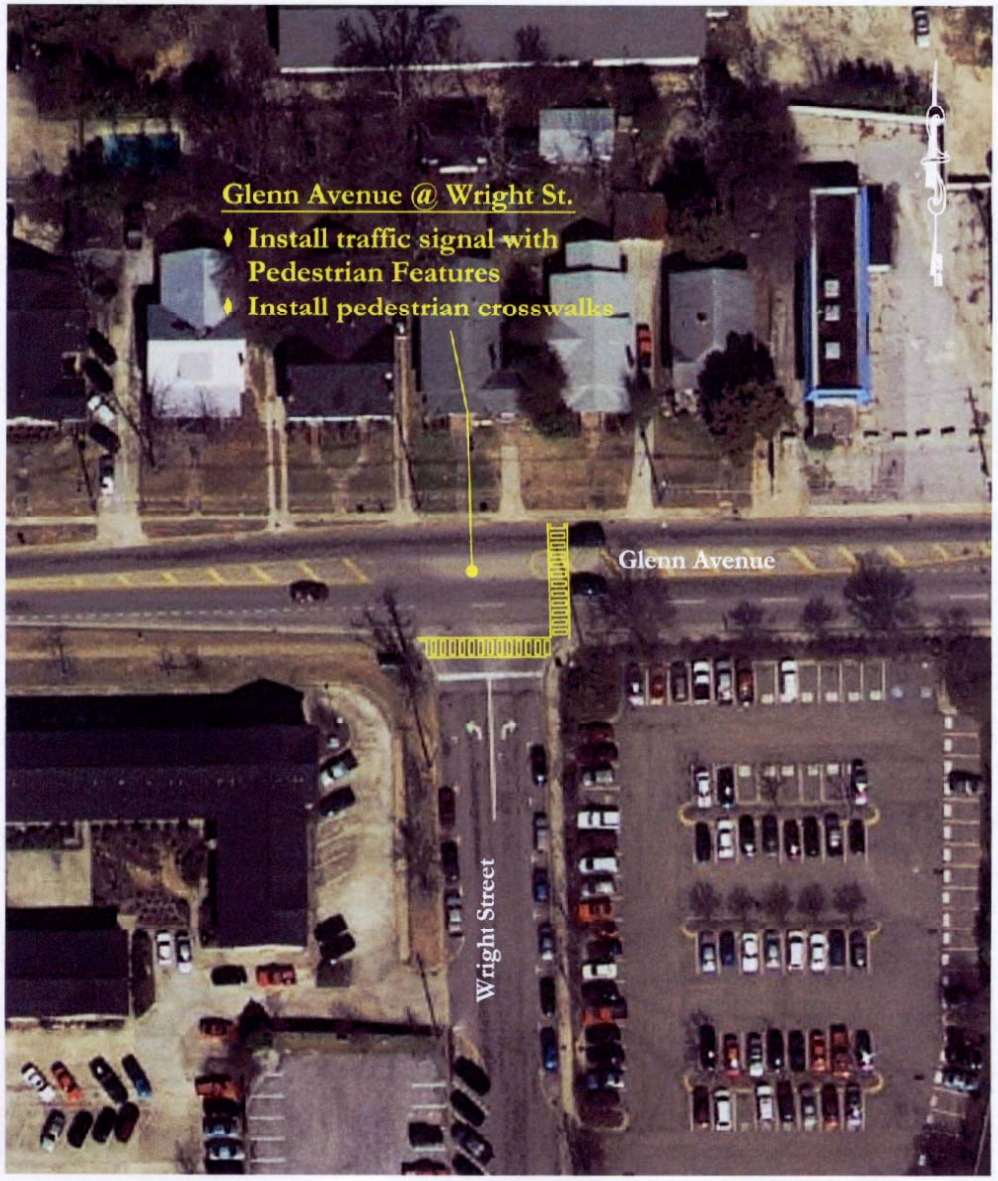


FIGURE 2-7
DONAHUE DR. @ W. GLENN AVE.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
JANUARY 2007 AUBURN, ALABAMA 1103.007

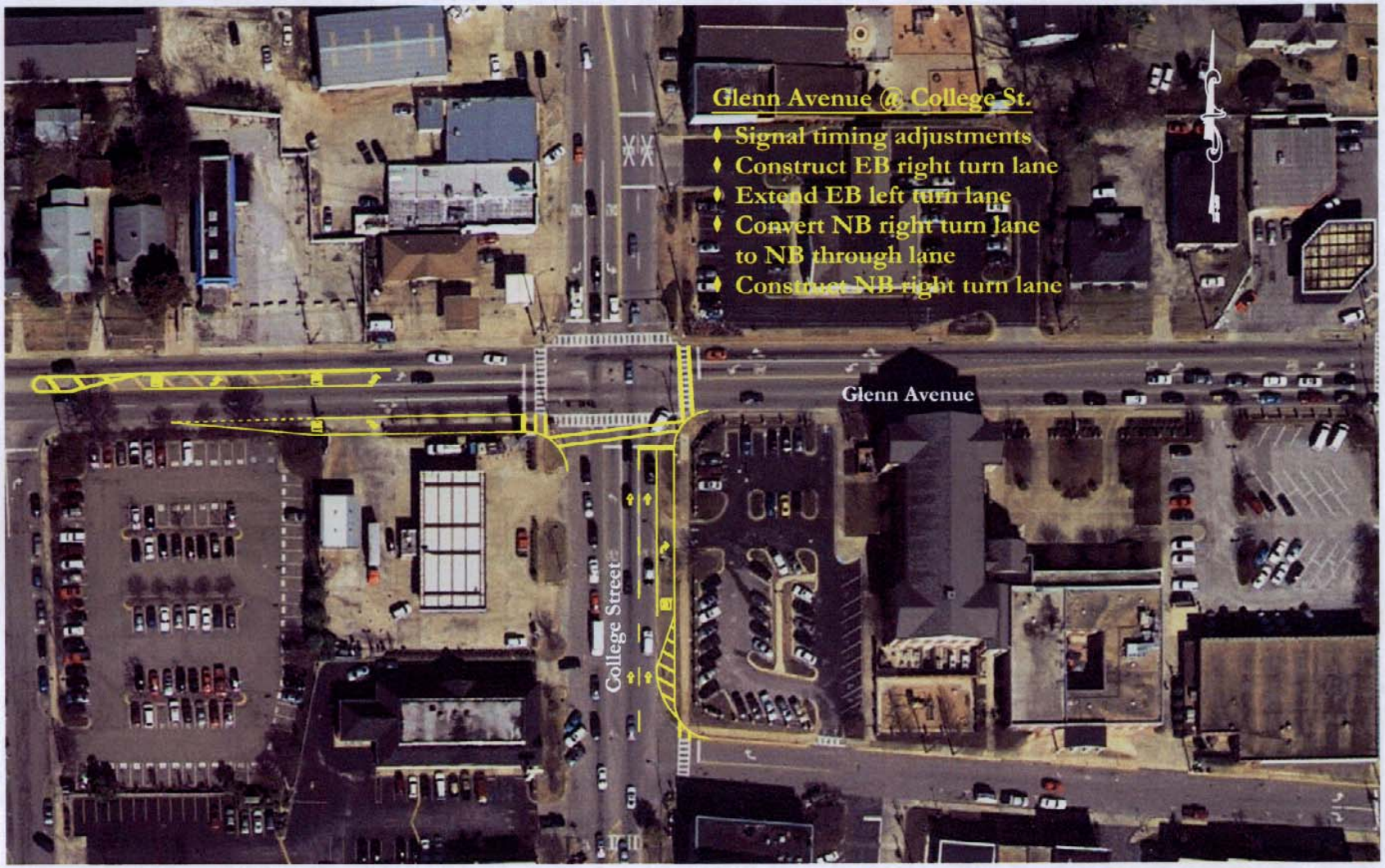
SKIPPER
CONSULTING INC.



0 60
APPROX. SCALE IN FT.

FIGURE 3-7
GLENN AVE. @ WRIGHT STREET IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
JANUARY 2007
1103.007

SKIPPER
CONSULTING INC.



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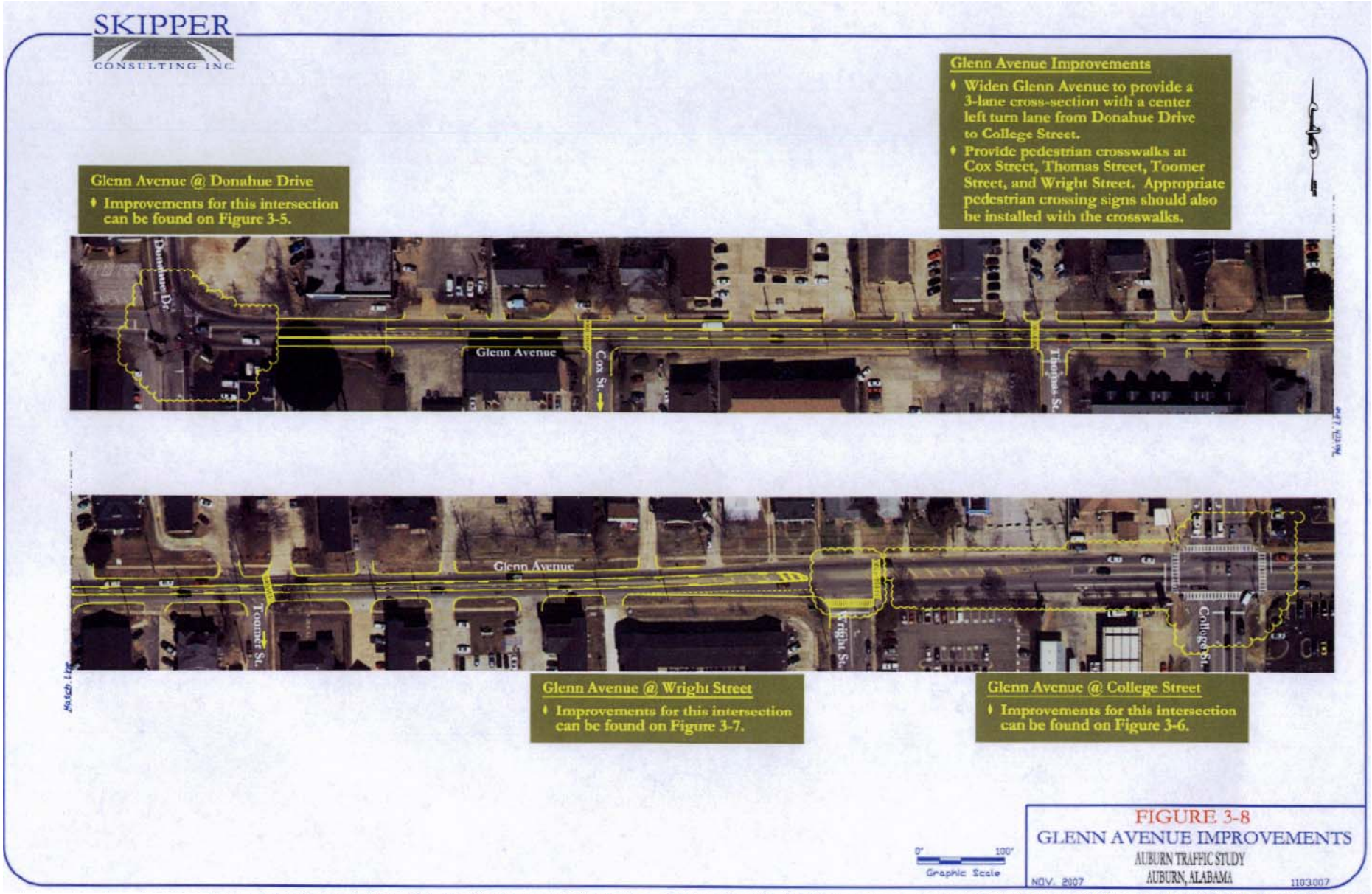
APPROX. SCALE IN FT.

FIGURE 3-6
GLENN AVE. @ COLLEGE ST. IMPROVEMENTS
AUBURN TRAFFIC STUDY
NOVEMBER 2006 AUBURN, ALABAMA 1103.007

Glenn Ave Corridor



Donahue Drive Corridor
Traffic Operational Evaluation

- Study Area
  - Magnolia Avenue to Bragg Avenue
- Areas of Study
  - Individual Intersections
  - Segments Between Intersections
  - Crash Data
- Recommendations


SKIPPER
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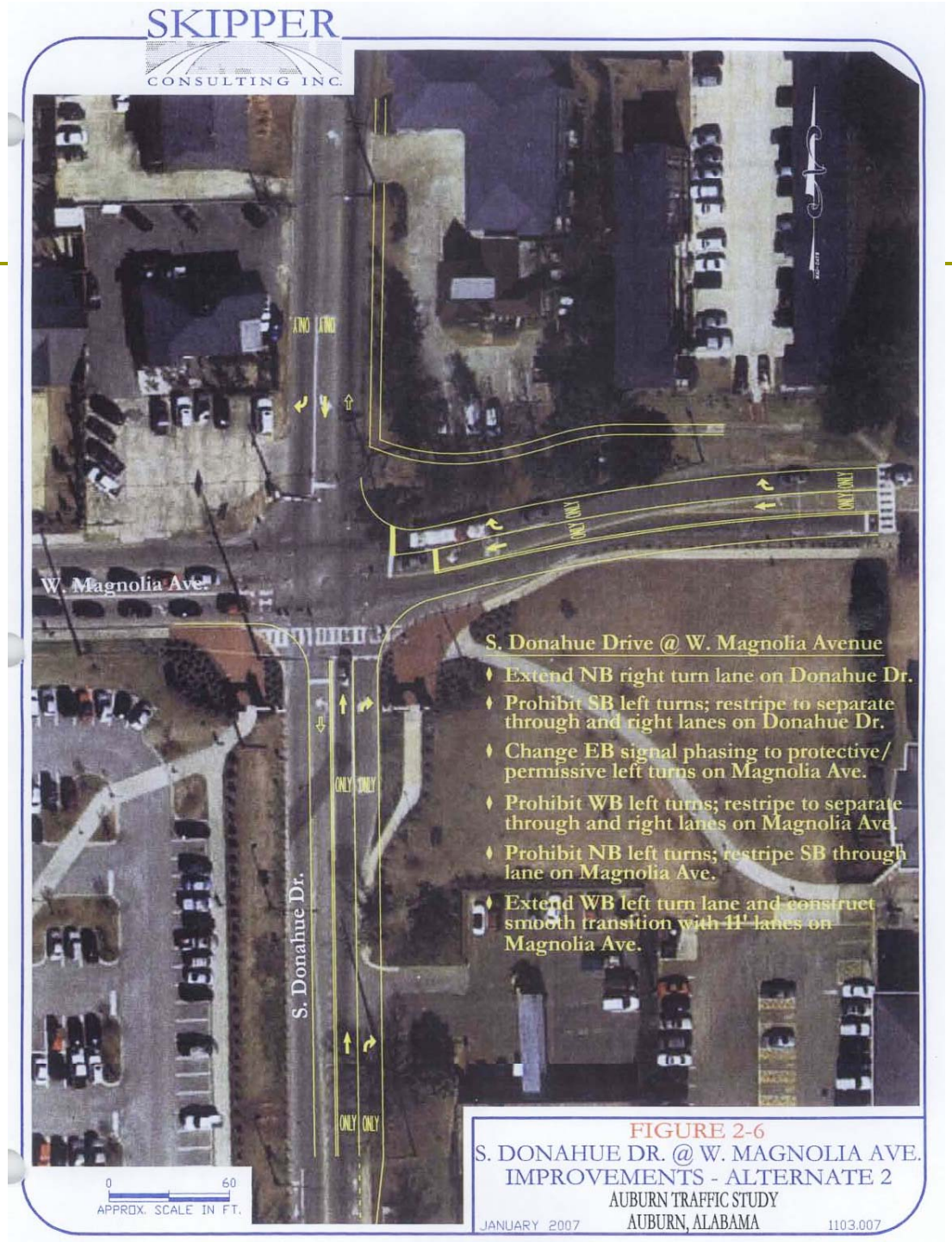
W. Magnolia Ave.
S. Donahue Dr.
ONLY
S. Donahue Drive @ W. Magnolia Avenue
Extend NB right turn lane on Donahue Dr.
Construct SB left turn lane and restripe to four 10' lanes on Donahue Dr.
Construct WB right turn lane
Change EB & WB signal phasing to protective/permissive left turns on Magnolia Ave.
Extend WB left turn lane and construct smooth transition with 11' lanes on Magnolia Ave.
Construct sidewalk in NE quadrant
0
60
APPROX. SCALE IN FT.
FIGURE 2-5
S. DONAHUE DR. @ W. MAGNOLIA AVE.
IMPROVEMENTS - ALTERNATE 1
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
JANUARY 2007
1103.007


SKIPPER
CONSULTING INC.
W. Magnolia Ave.
S. Donahue Dr.
ONLY
ONLY
S. Donahue Drive @ W. Magnolia Avenue
Extend NB right turn lane on Donahue Dr.
Prohibit SB left turns; restripe to separate through and right lanes on Donahue Dr.
Change EB signal phasing to protective/ permissive left turns on Magnolia Ave.
Prohibit WB left turns; restripe to separate through and right lanes on Magnolia Ave.
Prohibit NB left turns; restripe SB through lane on Magnolia Ave.
Extend WB left turn lane and construct smooth transition with 11' lanes on Magnolia Ave.
0
60
APPROX. SCALE IN FT.
FIGURE 2-6
S. DONAHUE DR. @ W. MAGNOLIA AVE.
IMPROVEMENTS - ALTERNATE 2
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
JANUARY 2007
1103.007

SKIPPER
CONSULTING INC.

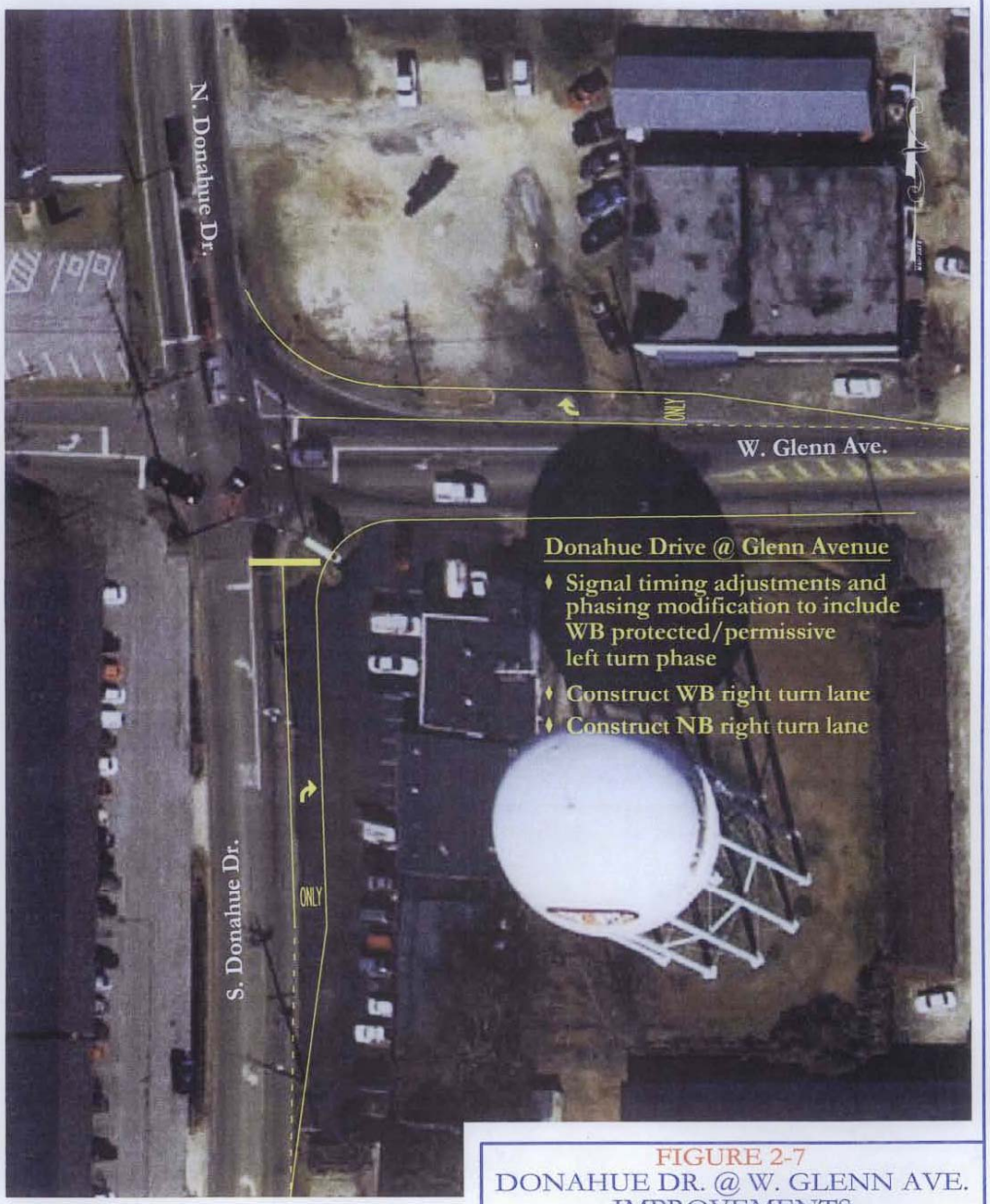
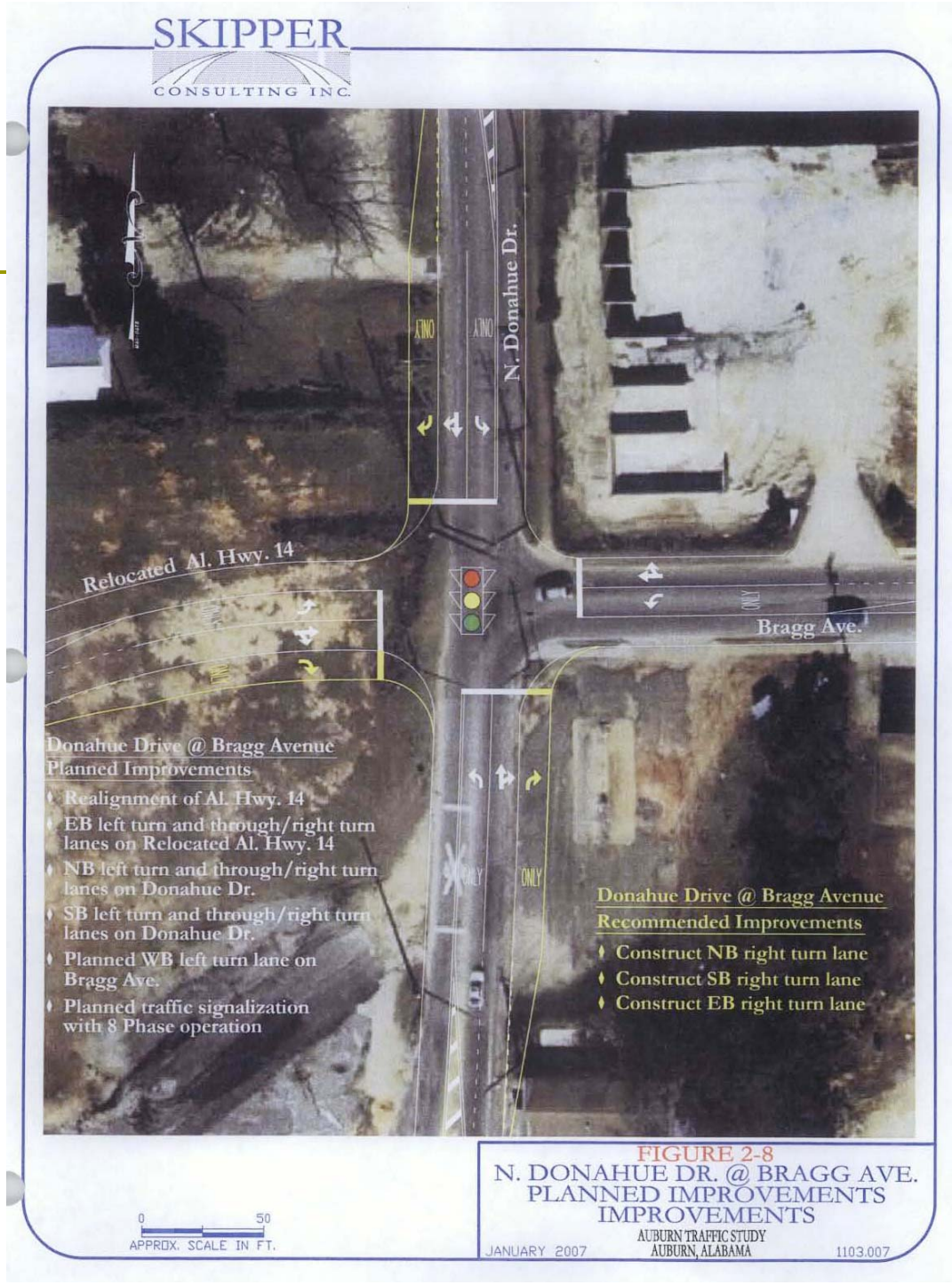


FIGURE 2-7
DONAHUE DR. @ W. GLENN AVE.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
JANUARY 2007 AUBURN, ALABAMA 1103.007


SKIPPER
CONSULTING INC.
N. Donahue Dr.
Relocated Al. Hwy. 14
Bragg Ave.
ONLY
Donahue Drive @ Bragg Avenue
Planned Improvements
Realignment of Al. Hwy. 14
EB left turn and through/right turn lanes on Relocated Al. Hwy. 14
NB left turn and through/right turn lanes on Donahue Dr.
SB left turn and through/right turn lanes on Donahue Dr.
Planned WB left turn lane on Bragg Ave.
Planned traffic signalization with 8 Phase operation
Donahue Drive @ Bragg Avenue
Recommended Improvements
Construct NB right turn lane
Construct SB right turn lane
Construct EB right turn lane
0
50
APPROX. SCALE IN FT.
FIGURE 2-8
N. DONAHUE DR. @ BRAGG AVE.
PLANNED IMPROVEMENTS
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
JANUARY 2007
1103.007

College Street: Interstate 85 to Donahue Drive Traffic Signal System Feasibility Study

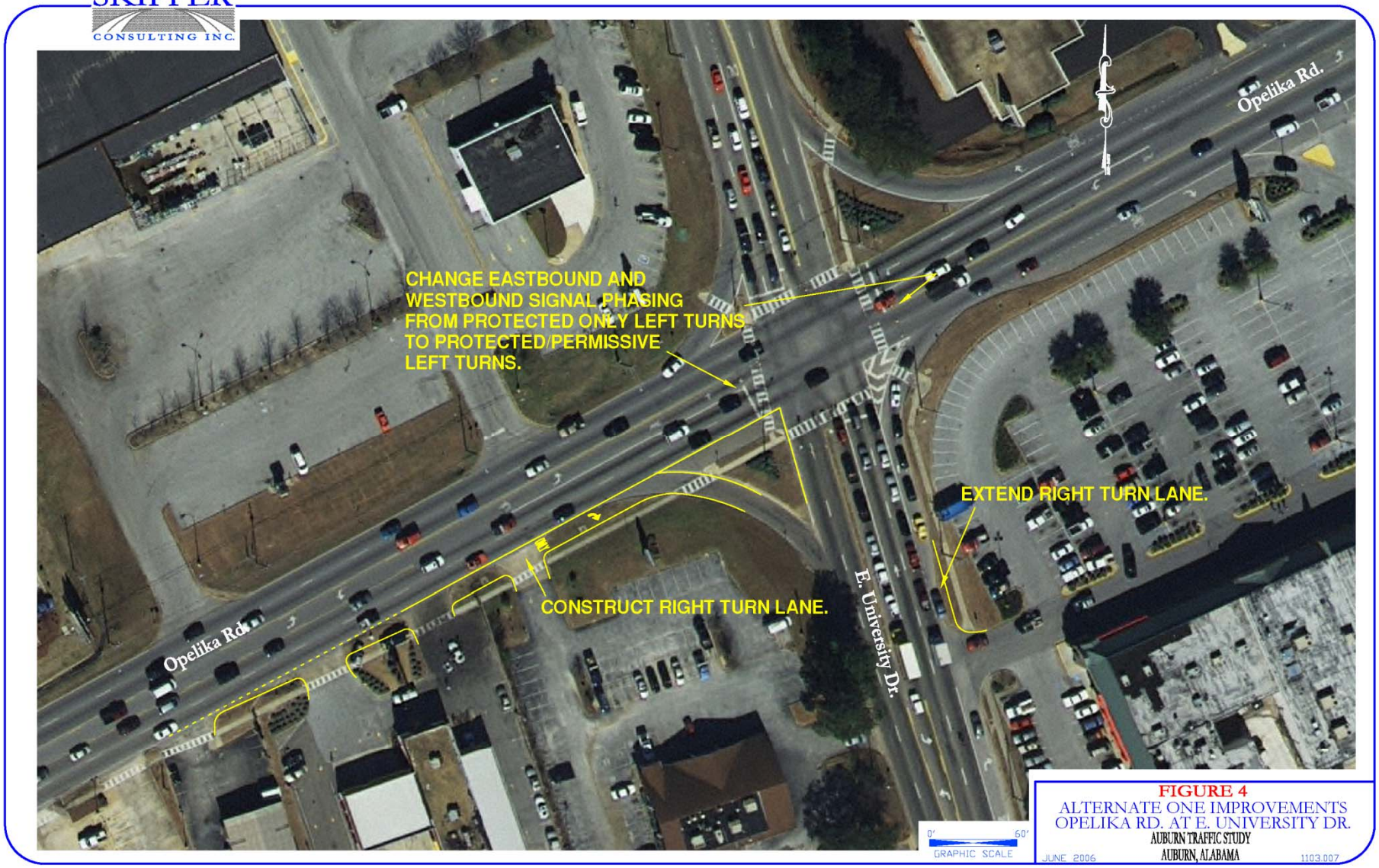
- Recommendations
  - Upgrade controllers at College and Longleaf
  - Implement a time based coordination traffic signal system on South College between Longleaf Drive and East University Drive
  - Implement a time based coordination traffic signal system on South College between Interstate 85 northbound ramp and Veterans Blvd

Isolated Intersections Study

- Opelika Road at East University Drive
- Opelika Road at Ross Street
- Shelton Mill Road at East University Drive

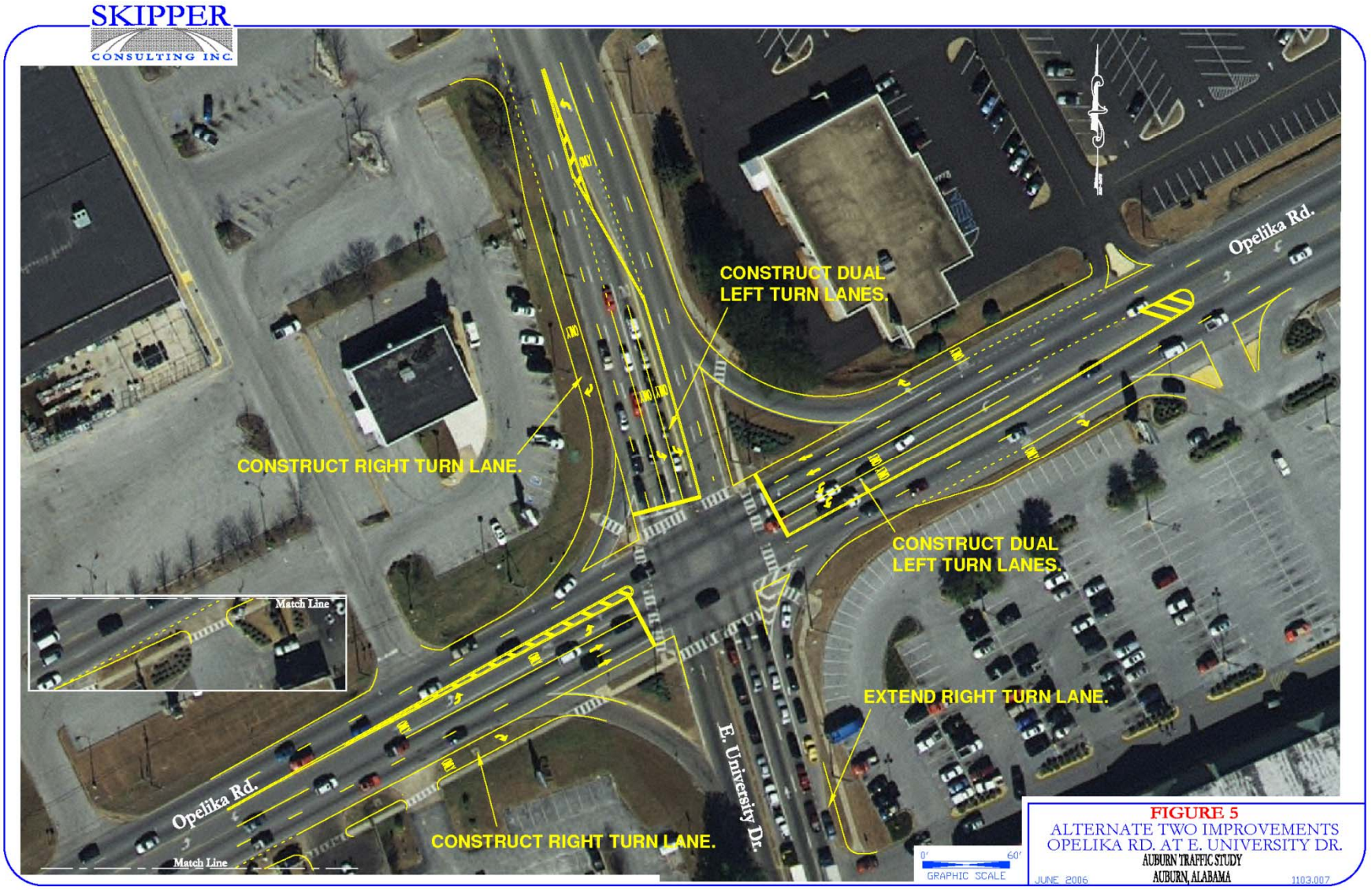
Opelika Road at East University Drive

Alternative 1



Opelika Road at East University Drive

Alternative 2



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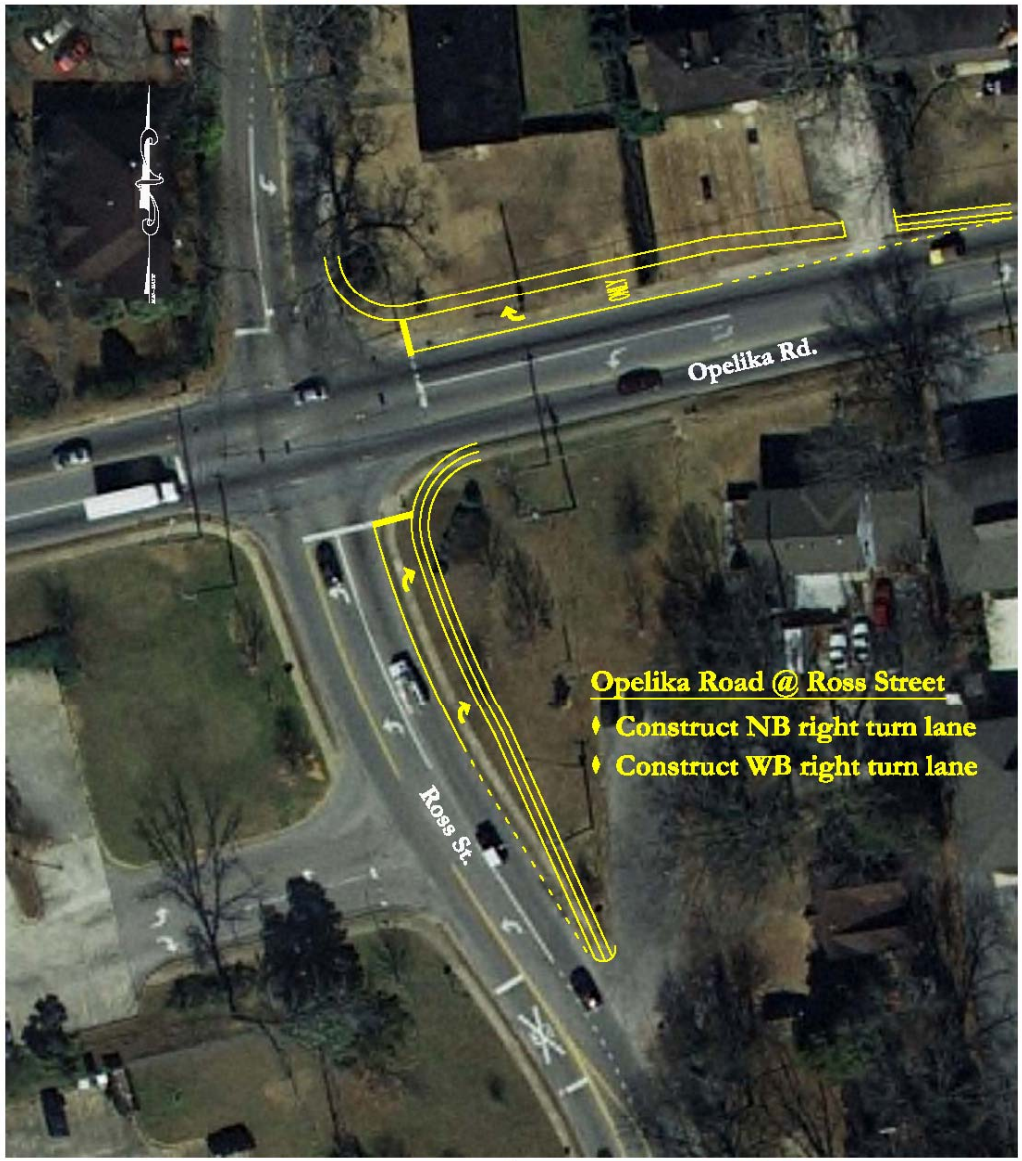

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APPROX. SCALE IN FT.

FIGURE 6
OPELIKA RD. @ ROSS ST.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA
1103.007

SKIPPER
CONSULTING INC

FIGURE 7
SHELTON MILL RD. @ E. UNIVERSITY DR.
IMPROVEMENTS
AUBURN TRAFFIC STUDY
AUBURN, ALABAMA

0 50
APPROX. SCALE IN FT.

City-wide Crash Study

- Basic Evaluation Principles
- City Crash Statistics
- Detailed Crash Analysis
- Intersection Crash Analysis
- Roadway Segment Crash Analysis

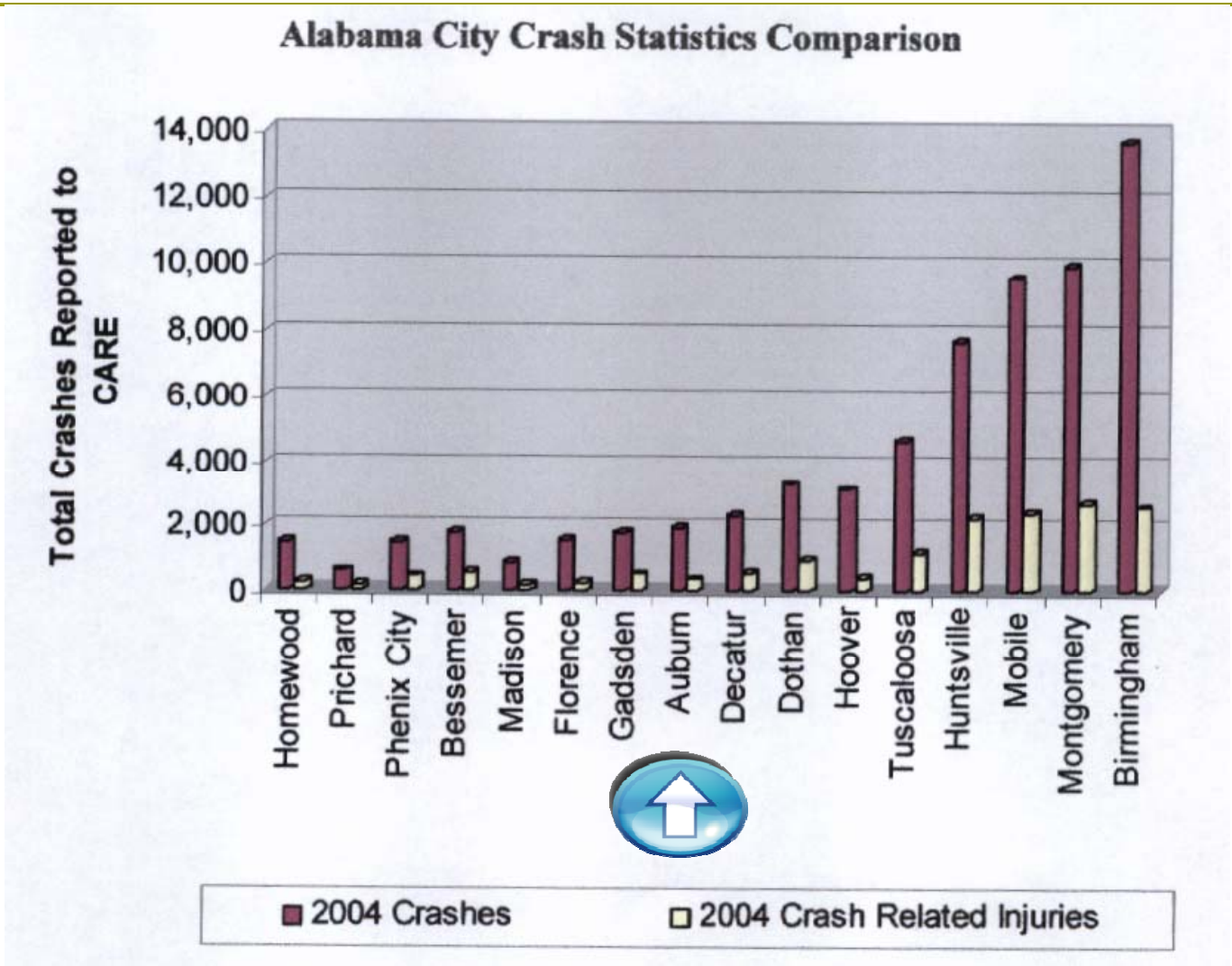
City-wide Crash Study

- Basic Evaluation Principles
  - Determine the total crashes at a location over a given time period
  - Examine the crashes experienced at the given location to determine how many (if any) were similar in character
  - Examine existing roadway conditions along with crash patterns at the given location to determine if roadway conditions may have contributed to the cause of the crashes experienced
  - Determine possible roadway improvements to help drivers reduce the number of crashes

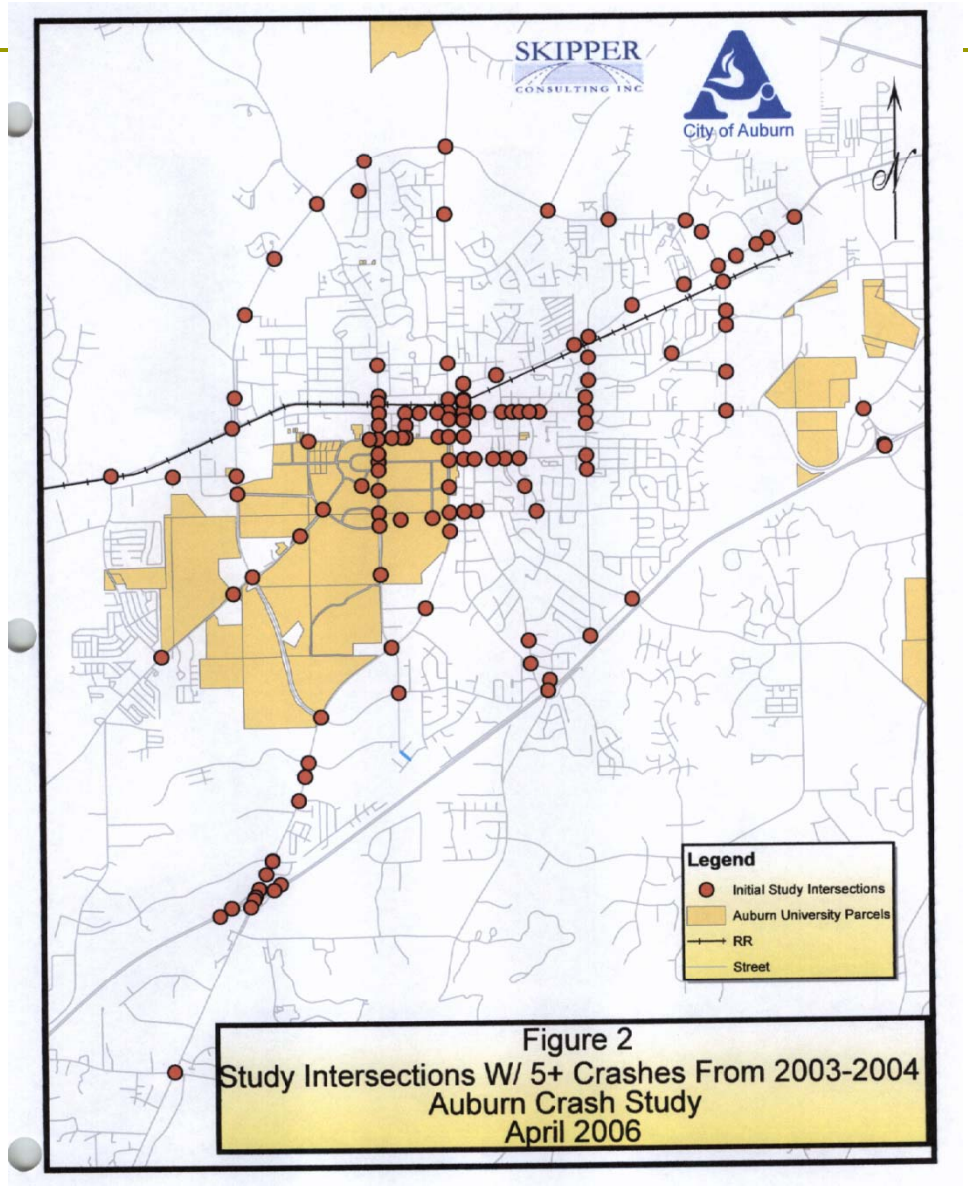
City-wide Crash Study

- City Crash Statistics for 2004
  - Total Crashes 1911
  - Crashes with injuries 361
  - Crashes with fatalities 4
  - Crashes involving pedestrians 11
  - 33% all crashes occur from September to November
  - Largest portions occur on Tuesday and Friday
  - 45% of all crashes occur with drivers age 19-24
  - 5% of all crashes involve alcohol and/or drugs

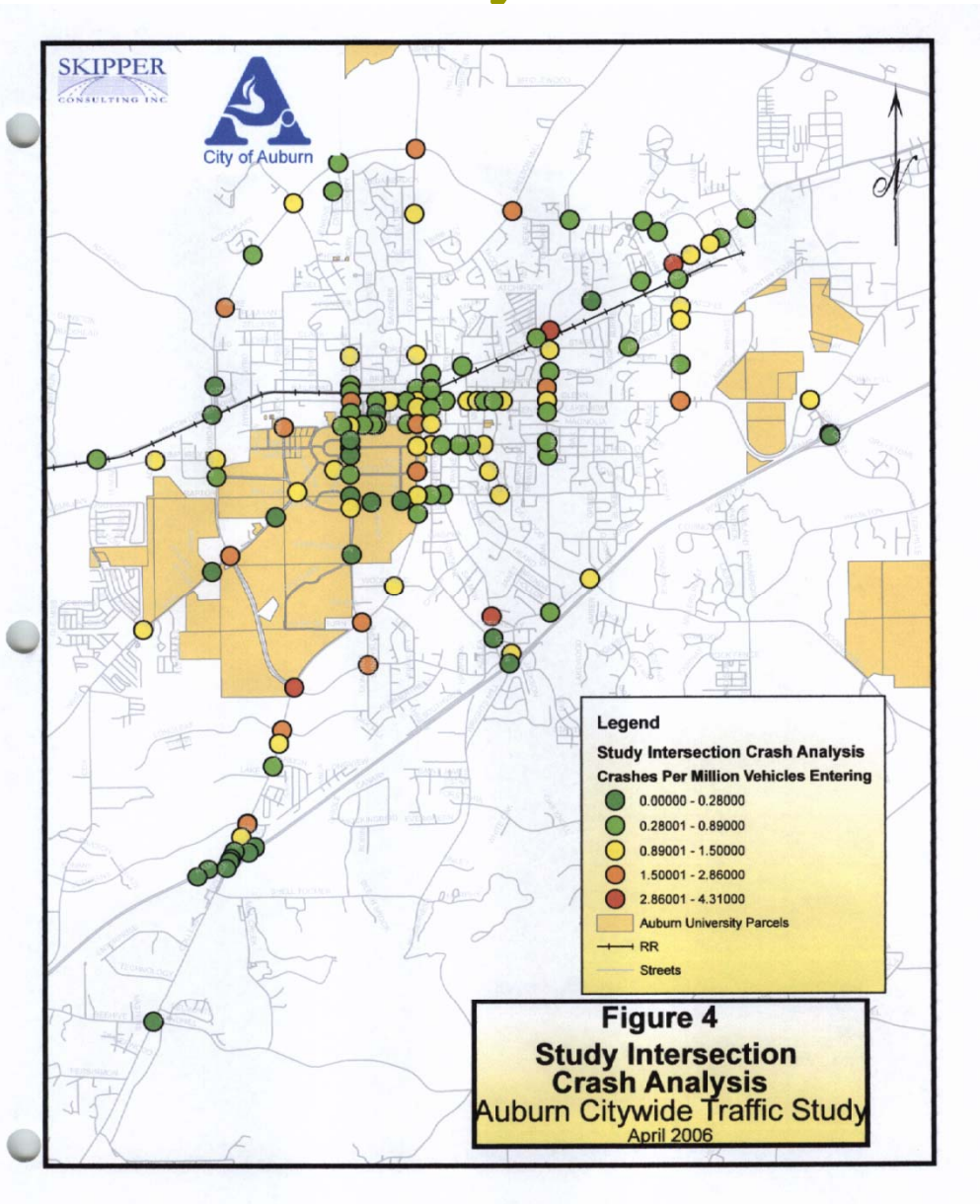
City-wide Crash Study



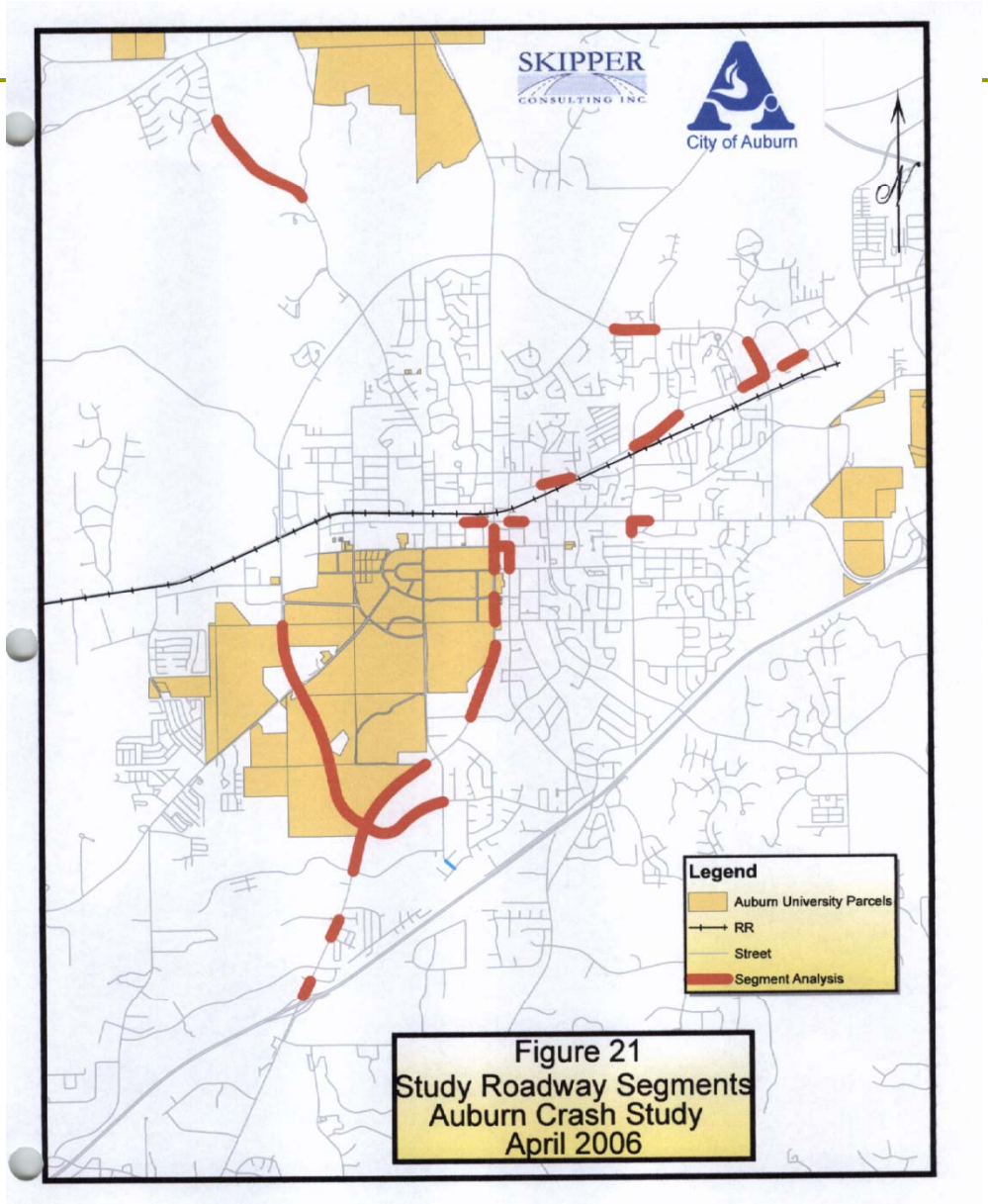
City-wide Crash Study



City-wide Crash Study



City-wide Crash Study



City-wide Crash Study

- Results
  - 37 intersections studied
    - 8 location were identified for possible improvements to reduce crashes
      - Dean and Harper
      - Magnolia and Donahue
      - South College and Donahue
      - South College and Longleaf
      - South College and Samford
      - South College and Shug Jordan/EUD
      - South College and South Park Drive
      - Shug Jordan Parkway and Martin Luther King Drive

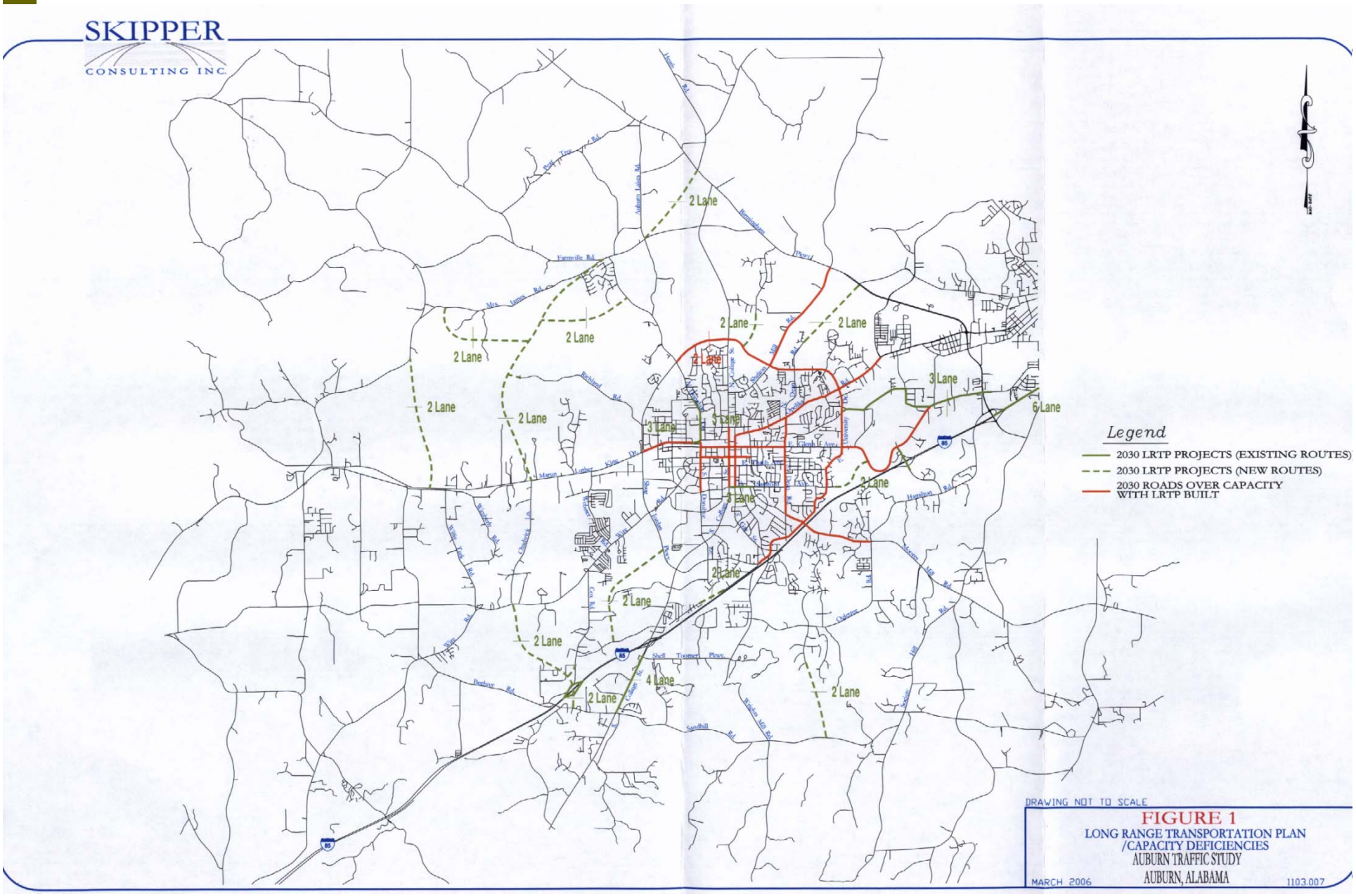
City-wide Crash Study

- Results
  - 24 roadway segments studied
    - One location noted for possible improvements to reduce crashes
      - Donahue Drive from Crescent Boulevard to Miracle Road

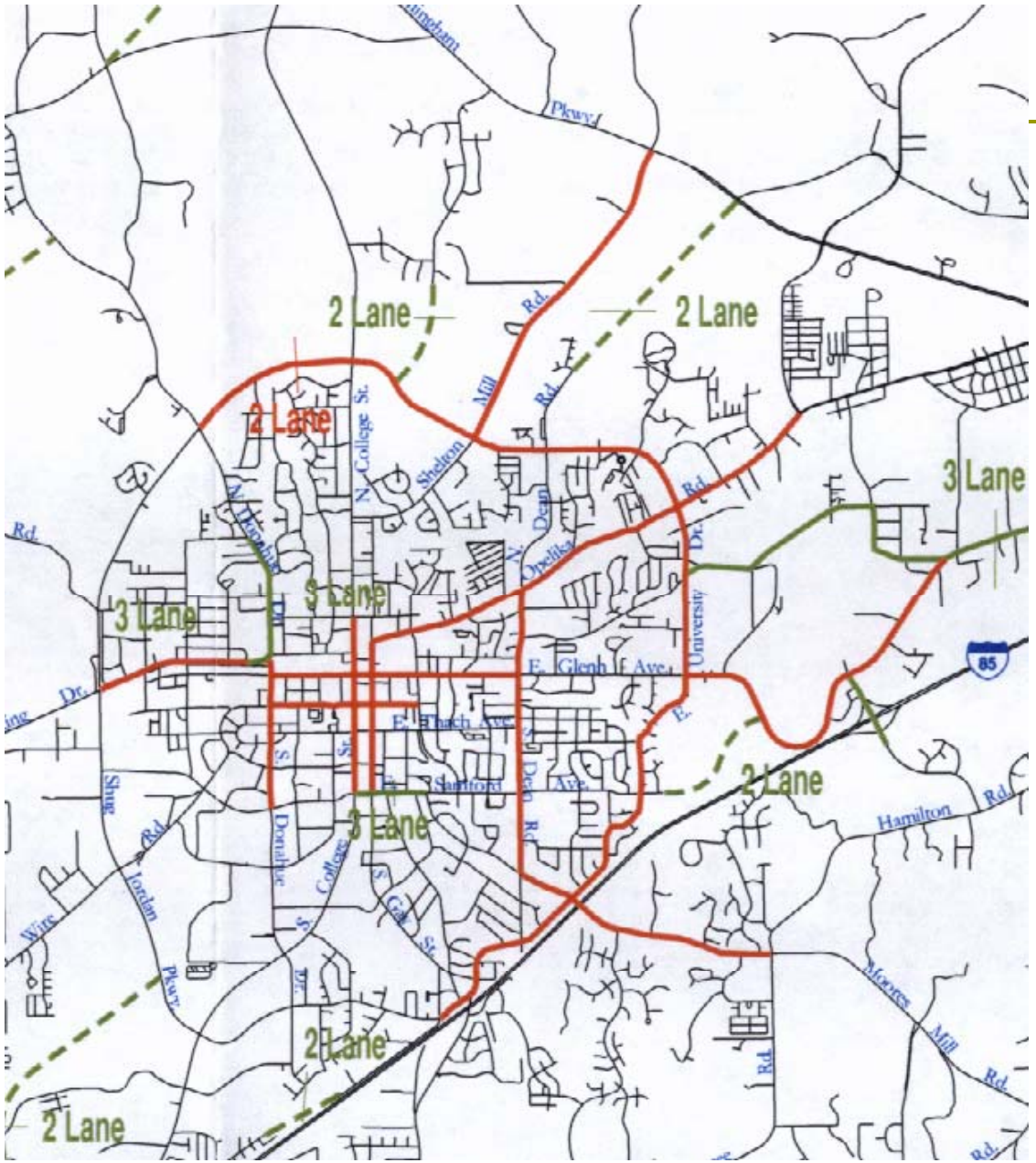
Revised
Long Range Transportation Plan

- Long range look at the City in year 2030
- Determine the roadways that are likely to be over capacity
- Recommend future roadway cross-section

Revised Long Range Transportation Plan



Revised Long Range Transportation Plan



Red lines are roadways over capacity by 2030

Green lines are future roadways on our Master Street Plan

Revised

Long Range Transportation Plan

- ***Shug Jordan Parkway*** — from Donahue Drive to Opelika Road the current cross-section is adequate. Require the construction of left and right turn lanes at all access points. Additionally, at public streets within the section, construct left turn and right turn lanes. Construct lanes at those locations where required to ensure two through lanes in both directions (Shelton Mill Road).

Revised
Long Range Transportation Plan

- ***Shelton Mill Road*** — reconstruct as three lanes from Shug Jordan Parkway to U.S. Highway 280. Require right turn lanes at all access points and public streets and exercise access management.

- ***East University Drive***
  1. Opelika Road to Glenn Avenue — five lane cross section with access management
  2. Glenn Avenue to South College Street — three lane cross section with access management

Revised
Long Range Transportation Plan

- ***Opelika Road***
  1. Auburn city limits to East University Drive — six lane cross section with median
  2. East University Drive to Dean Road — construct or require right turn lanes at all access points and public streets and exercise access management.

Revised
Long Range Transportation Plan

- ***Glenn Avenue***

  1. Donahue Drive to College Street — three lane cross section with application of access management.
  2. College Street to Gay Street — no change from current cross section
  3. Gay Street to Dean Road — construct left turn lanes required to ensure two through lanes are continuous through this section. Employ access management.
  4. Dean Road to Bent Creek Road — no change from current cross section

Revised
Long Range Transportation Plan

- ***Magnolia Avenue***

  1. Donahue Drive to College Street — three lane cross section with access management.
  2. College Street to Ross Street — no change required.

- ***Alabama Highway 14***

  1. Donahue west to Shug Jordan Parkway — three lane cross section
  2. Donahue from Alabama Highway 14 north to Bedell Avenue — three lane cross section

Revised
Long Range Transportation Plan

- ***College Street***

  1. Bragg Avenue to Glenn Avenue — three lane cross section
  2. Glenn Avenue to Magnolia Avenue — no change

Revised
Long Range Transportation Plan

- ***Gay Street***

  1. Opelika Road to Glenn Avenue — three lane cross section
  2. Glenn Avenue to Magnolia Avenue — three lane cross section
  3. Magnolia Avenue to Samford Avenue — three lane cross section

Revised
Long Range Transportation Plan

- ***Dean Road***

  1. Opelika Road to Annalue Drive — current cross section acceptable
  2. Annalue Drive to Glenn Avenue — current cross section acceptable. Add a northbound right turn lane on Dean Road at Annalue Drive
  3. Glenn Avenue to north of Dean Road Elementary School — current cross section acceptable
  4. North of Dean Road Elementary School to South of Auburn High School — reconstruct as five lane cross section with reconfiguration of high school access points.
  5. South of Auburn High School to Moore's Mill Road - no change recommended

Revised
Long Range Transportation Plan

- ***Moore's Mill Road***

  1. Dean Road to East University Drive — five lane cross section recommended with access management
  2. East University Drive to Hamilton Road/Ogletree Road - five lane cross section recommended

Traffic Circulation Standards and Development
Traffic Impact Study Requirements

- General Information and Purpose
  - Develop standards to appropriately regulate and balance the increased traffic flow generated by new development with the need to preserve the quality of life and the environment within our community and ensure pedestrian and bicycle safety as alternative modes of transportation.

Traffic Circulation Standards

- Street Definitions and Classification
- Traffic Circulation Standards by Classification
- Streets and Circulation
- Access Management Guidelines

Traffic Circulation Standards and Development
Traffic Impact Study Requirements

- Street Definitions and Classifications
  - Interstate
  - Arterial
  - Collector
  - Residential Collector Street
  - Local Commercial Street
  - Local Residential Street
  - Marginal Access Roadway
  - Cul-de-sac
  - Alley

Table 1
Maximum Roadway Volumes by Classification

Classification	Two Lane		Three Lane		Four Lane		Four Lane Divided (Five Lane)		Six Lane	
	Max. Peak Hour Volumes	Max. Daily Volumes	Max. Peak hour Volumes	Max. Daily Volumes	Max. Peak Hour Volumes	Max. Daily Volumes	Max. Peak Hour Volumes	Max. Daily Volumes	Max. Peak Hour Volumes	Max. Daily Volumes
Alley*	30 vph	300 vpd	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Local Residential/Cul-de-sac Street*	200 vph	2,000 vpd	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Local Commercial Street**	1,030 vph	10,300 vpd	1,290 vph	12,900 vpd	1,520 vph	16,200 vpd	1,770 vpd	17,700 vpd	N//A	N//A
Residential Collector***	500 vph	5,000 vpd	630 vph	6300 vpd	790 vph	7,900 vpd	860 vpd	8,600 vpd	N//A	N//A
Collector **	1,030 vph	10,300 vpd	1,290 vph	12,900 vpd	1,620 vph	16,200 vpd	1,770 vpd	17,700 vpd	2,600 vph	26,000 vpd
Arterial **	1.330 vph	13,300 vpd	1,570 vph	15,700 vpd	2,050 vph	20,500 vpd	2,540 vpd	25,400 vpd	3,750 vph	37,500 vpd
Expressway**	N/A	N/A	N/A	N/A	N/A	N/A	5,100 vpd	51,000 vpd	7,650 vph	76,500 vpd

* based on maximum daily volumes from standards of other communities in Southeast

** Alabama Department of Transportation Approved Capacities and LOC Criteria

***Based on trip generation for 500 detached residential dwelling units from ITE

Traffic Circulation Standards and Development
Traffic Impact Study Requirements

- Streets and Circulation
  - Reinforces the need to provide for the continuation and connection of streets between adjacent properties

Traffic Circulation Standards and Development Traffic Impact Study Requirements

- Access Management Guidelines
  - Requires multiple driveways to be justified by the developer.
  - Driveway spacing based on speed and classification.

Table 3
Driveway Spacing Standards

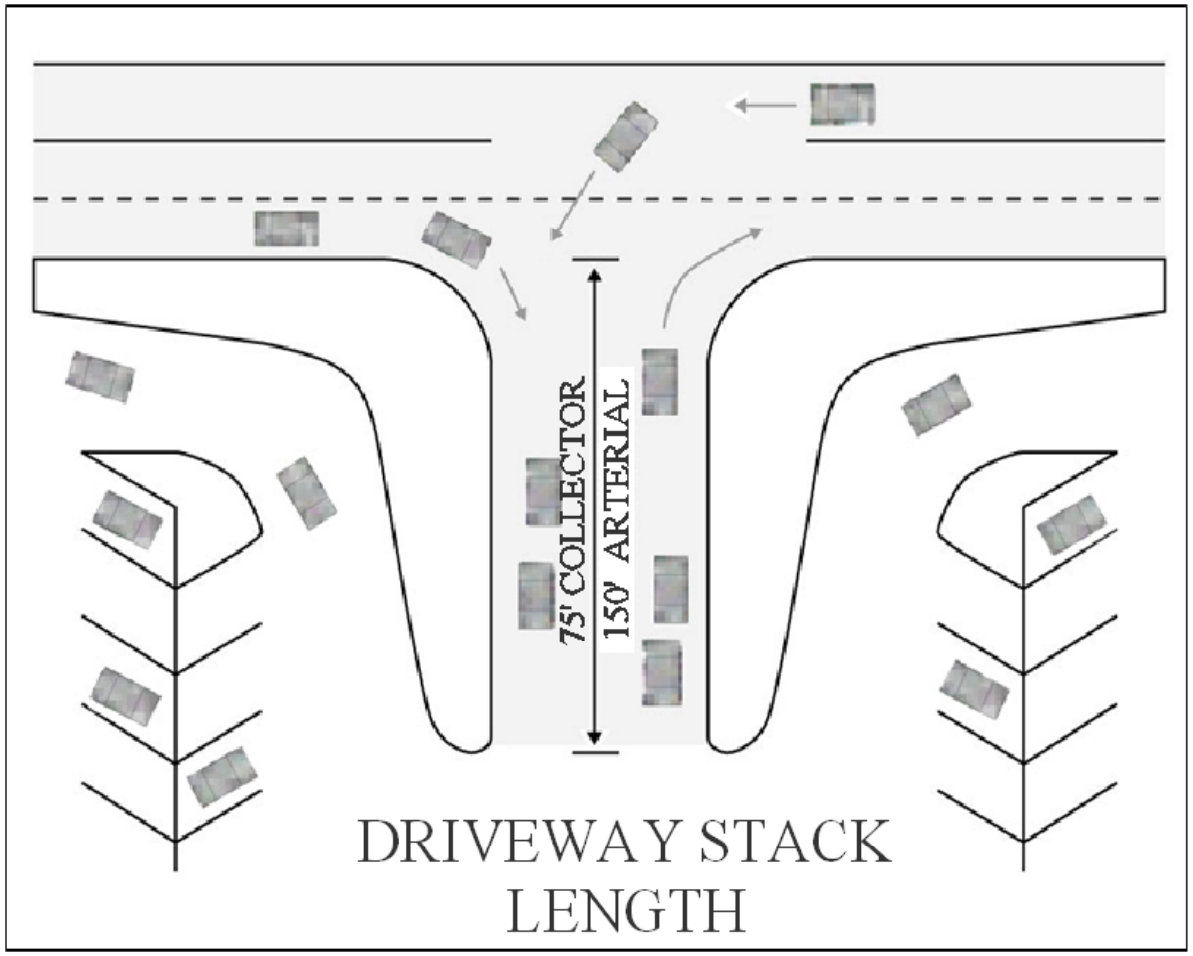
Classification	Minimum Driveway Spacing (ft) * Posted Speed Limit (MPH)					
	55	50	45	40	35	<30
Commercial	N/A	N/A	N//A	200ft	150ft	150ft
Residential Collector	N/A	N/A	N/A	N/A	150ft**	150ft**
Collector	350ft	300ft	250ft	200ft	150ft	150ft
Arterial	500ft	450ft	400ft	350ft	300ft	300ft
Shug Jordan/EUD	600 ft. **					
Auburn Outer Loop	600 ft. **					

* measured from edge of access to edge of access (Auburn Zoning Ordinance Section 437.01)
** On average

Traffic Circulation Standards and Development Traffic Impact Study Requirements

- Access Management Guidelines
  - Restrict the number of driveways or access points to one per property frontage or provide justification for additional driveways as applicable.
  - Shared driveways between two parcels at the property lines should be used where practical.
  - Driveways shall not be permitted for parking or loading areas that require backing maneuvers in a residential collector, collector or an arterial street.
  - Driveways shall be located so as not to interfere with safe intersection sight distance as determined by the City of Auburn.
  - Direct access for single family residential lots or parcels shall not be permitted onto arterial roadways.

Vehicle Stacking and Storage Space Recommendations



Development Traffic Impact Study Requirements

- Traffic Impact Study Requirements
- Traffic Impact Study Procedures and Criteria
- Traffic Impact Study Report Conclusions
- Traffic Impact Study Report Outline

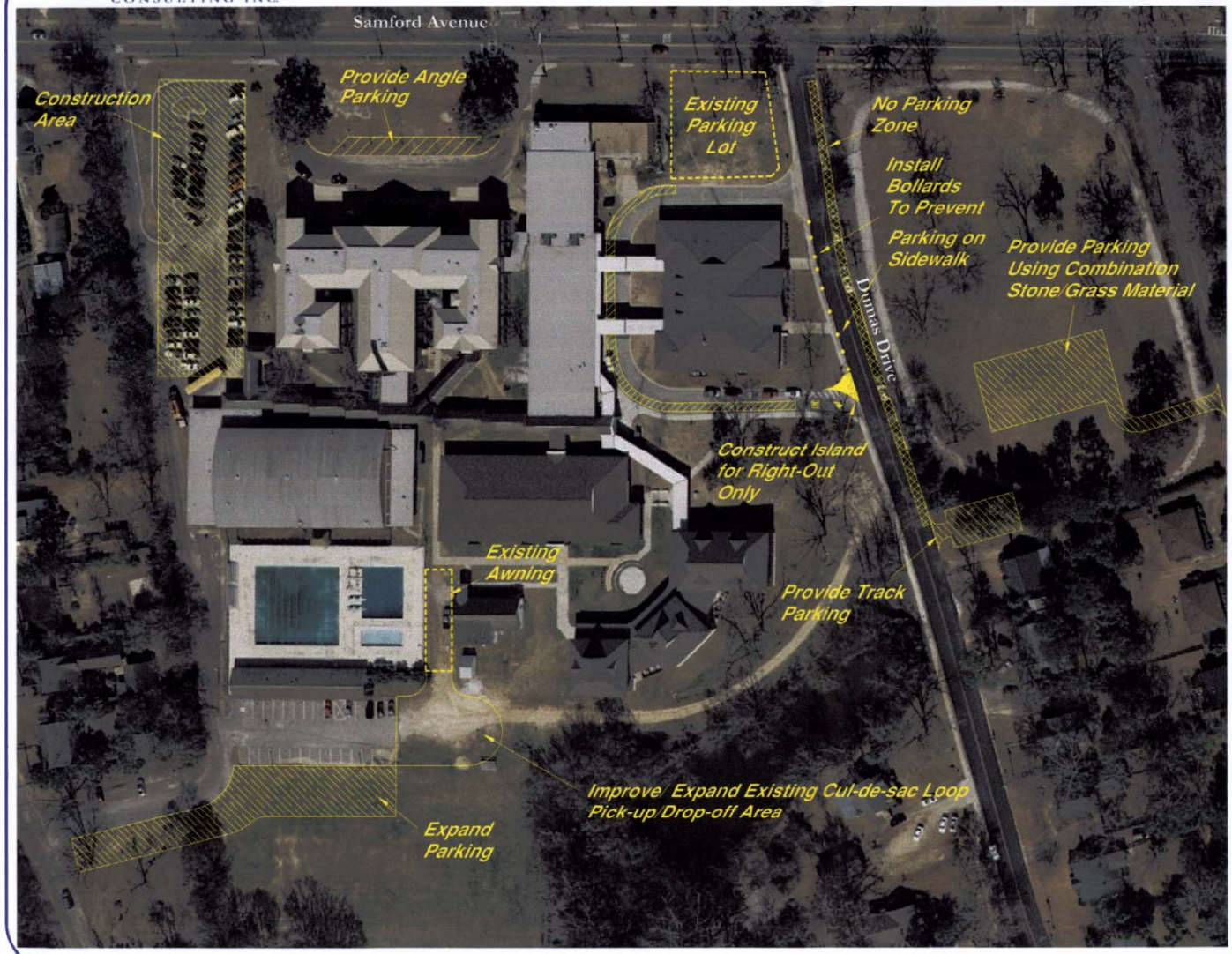
Table 4
Traffic Impact Study Thresholds by Land Use*

Land Use	*Size (units)*
Residential – Single Family	70 dwelling units
Residential – Townhomes/Condos	120 dwelling units
Residential – Apartments	100 dwelling units
Residential – Assisted Living	285 beds
Shopping Center	17,500 sf
Fast Food Restaurant w/drive-thru	1,500 sf
High-Turnover Sit-Down Restaurant	5,900 sf
Quality Restaurant	8,300 sf
Gas/Service Station w/Convenience Market & Car Wash	5 fueling positions
Bank w/drive-thru	2,200 sf
Pharmacy w/drive-in	8,500 sf
Hotel/Motel	95 rooms
General Office	45,500 sf
Medical/Dental Office	21,000 sf
General Light Industrial	102,000 sf
Manufacturing	137,000 sf

*Institute of Transportation Engineers

School Traffic Evaluation

SKIPPER CONSULTING INC



AUBURN JUNIOR HIGH SCHOOL

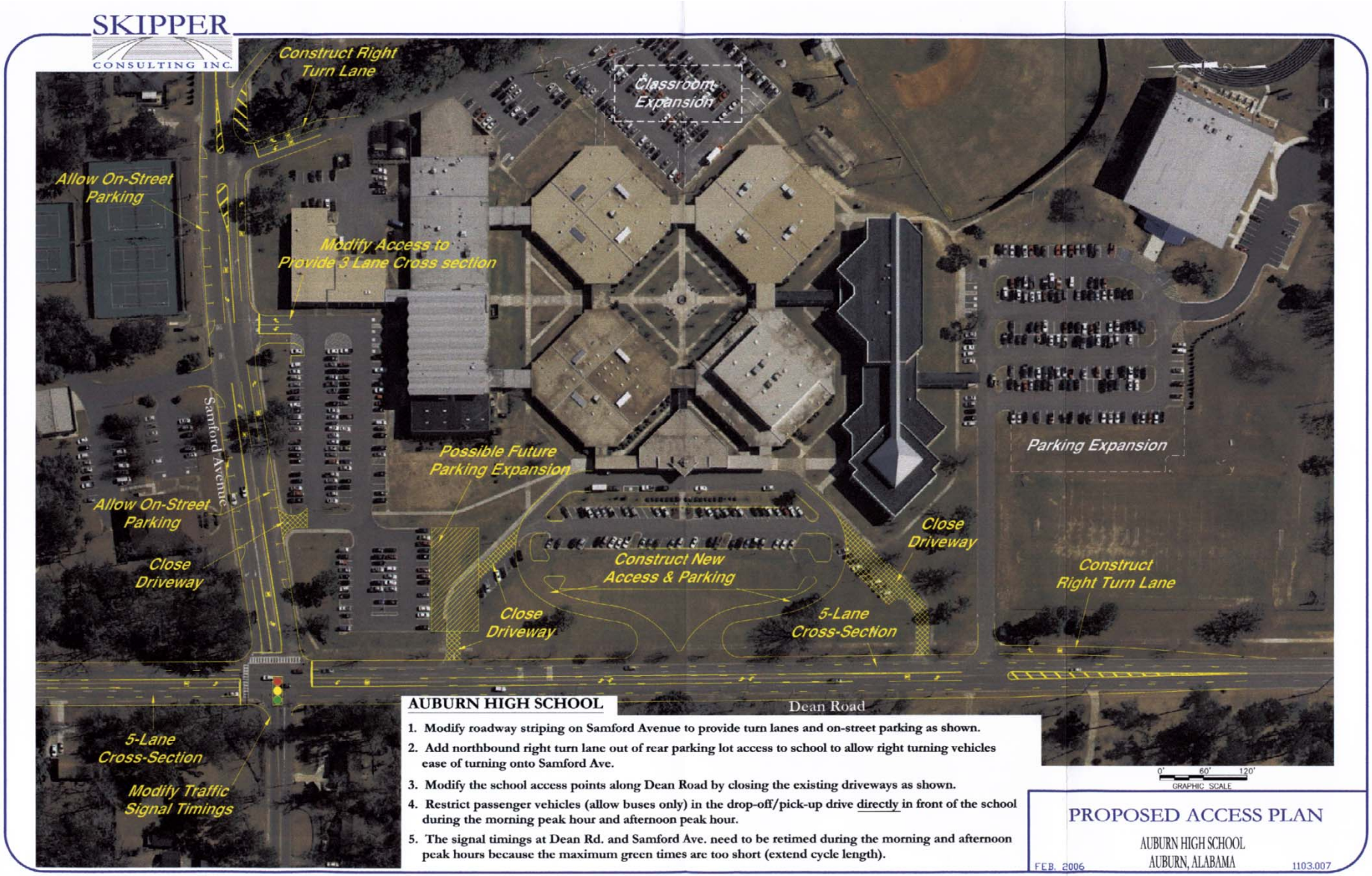
1. Due to building construction the parking areas along the west side of the school campus should be expanded.
2. The temporary drop off/ pick up cul-de-sac located along the rear of the school should be improved and expanded.
3. On the east side, the one-way drop-off/pick-up circle off of Dumas Dr. needs better organization of stacking in the circle.
4. The drop-off/pick-up circle off of Dumas Dr. needs to properly accommodate parallel parking through striping as well as putting a physical obstruction to prevent lefts out of this access.
5. Some type of physical barrier, i.e., bollards, should be installed on the west side of Dumas Dr. adjacent to the sidewalk to prevent parking on the sidewalk.
6. Parallel parking on east side of Dumas Dr. in front of one-way drop-off/pick-up circle creates gridlock on Dumas Dr. during the afternoon peak hour. The majority of the vehicle that were parallel parked on the east side of Dumas Dr. appeared to be faculty/staff to the school. No parking signs on Dumas Dr. should be installed during the afternoon pick-up period. Installing additional faculty/staff parking on campus should also be considered.

Pick-Up/Drop-Off Area

0' 50' 100'
GRAPHIC SCALE

PROPOSED ACCESS PLAN
AUBURN JUNIOR HIGH SCHOOL
AUBURN, ALABAMA
FEB. 2006 1103.007

School Traffic Evaluation



School Traffic Evaluation

SKIPPER
CONSULTING INC.

DEAN ROAD ELEMENTARY SCHOOL

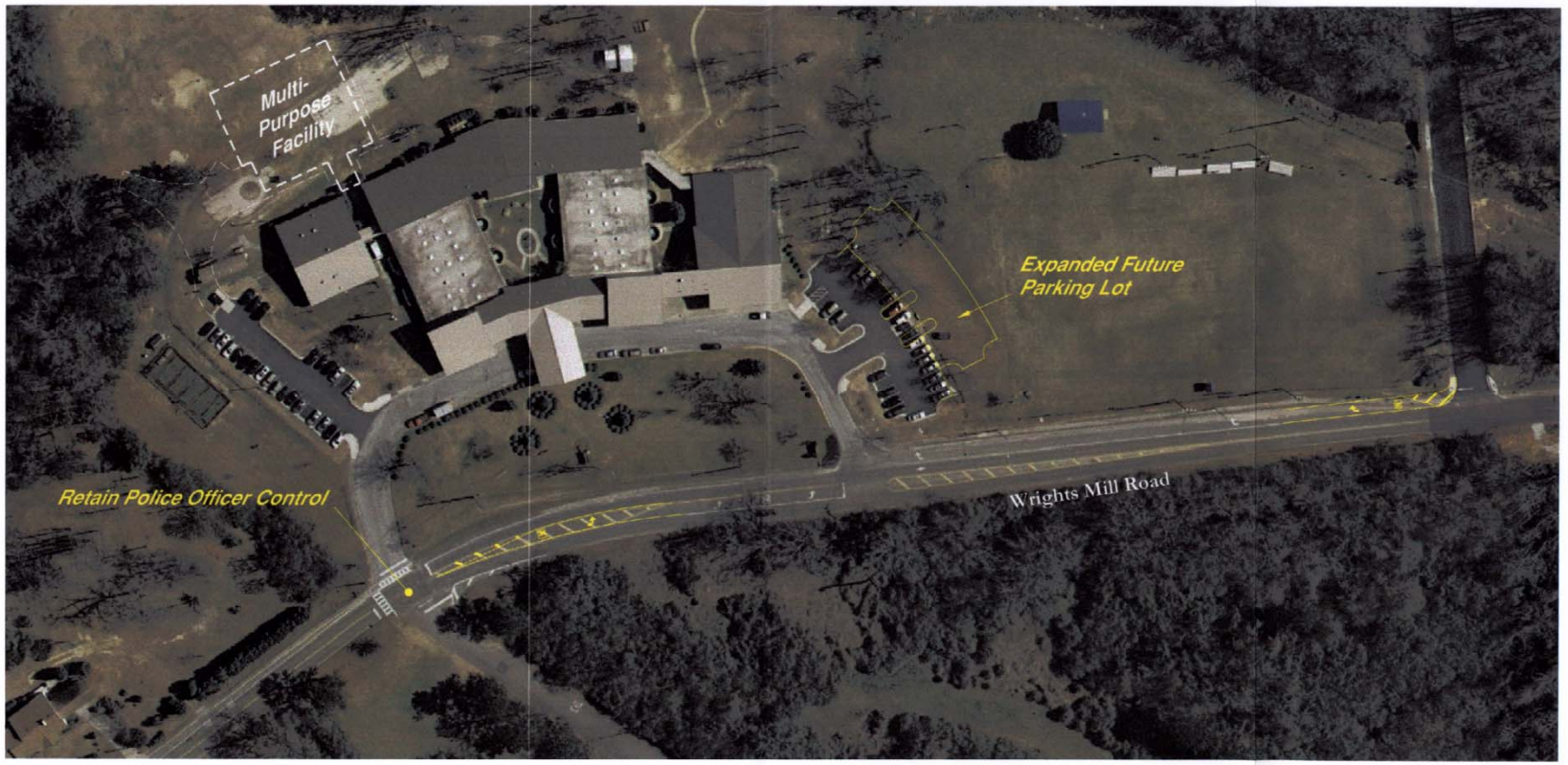
1. Additional parking for faculty/staff is needed.
2. Northbound traffic on Dean Rd. entering the school drop-off/pick-up drive does back out onto Dean Rd. in the morning and afternoon peak hours but does not cause any congestion problems to the through traffic on Dean Rd. In addition, a drainage structure on the east side of Dean Rd. would make adding a right turn lane into the school driveway costly.
3. The signal timings at Dean Rd. and Samford Ave. need to be retimed during the morning and afternoon peak hours becasue the maximum green times are too short (extend cycle length).
4. Re-configure and expand Rec Center parking lot to accomodate a bus loop and additional parking as shown.
5. Segregate car loading zone and bus loading zone as shown. Add right turn lane northbound along Dean Road into car loading zone as shown.
6. Extend the car loading zone further around the loop as shown.
7. Modify the existing Rec center driveway intersection with Dean Road to provide a three (3) lane cross section.

0' 50' 100'
GRAPHIC SCALE

PROPOSED ACCESS PLAN
DEAN ROAD ELEMENTARY SCHOOL
AUBURN, ALABAMA
FEB. 2006 1103.007

School Traffic Evaluation

SKIPPER
CONSULTING INC.



WRIGHTS MILL ROAD ELEMENTARY SCHOOL

1. The southbound left turn lane should be extended back to the intersection on Wrights Mill Rd.
2. The northbound right turn lane should be extended to the corner on Wrights Mill Rd.
3. The police officer should be retained at the exit.
4. Expand southern parking lot (FUTURE).

0' 50' 100'
GRAPHIC SCALE

PROPOSED ACCESS PLAN
WRIGHTS MILL ELEMENTARY SCHOOL
AUBURN, ALABAMA
FEB. 2006 1103.007

Questions?

Comprehensive Transportation Plan

- Traffic Study one piece of the big puzzle
- Traffic Study should be updated every five years
- Results will be reviewed again during the budgeting process

Traffic Study Summary

- Corridor Traffic Operational Evaluation
- Traffic Signal System Timings
- Isolated Intersections Study
- City-wide Crash Study
- Revised Long Range Transportation Plan
- Traffic Circulation Standards and Development Traffic Impact Study Requirements
- School Traffic Congestion Evaluations

City of Auburn
Traffic Study

Presented by
Jeff Ramsey P.E.
Director of Public Works / City Engineer