DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

Office of Traffic Operations

SR 34 @ SR 154

PROJECT CONCEPT REPORT

P. I. Number: 0009721
County: Coweta

Federal Route Number:
State Route Number: SR 34

SEE ATTACHED
LOCATION SKETCH

Date of Report: May 26, 2010

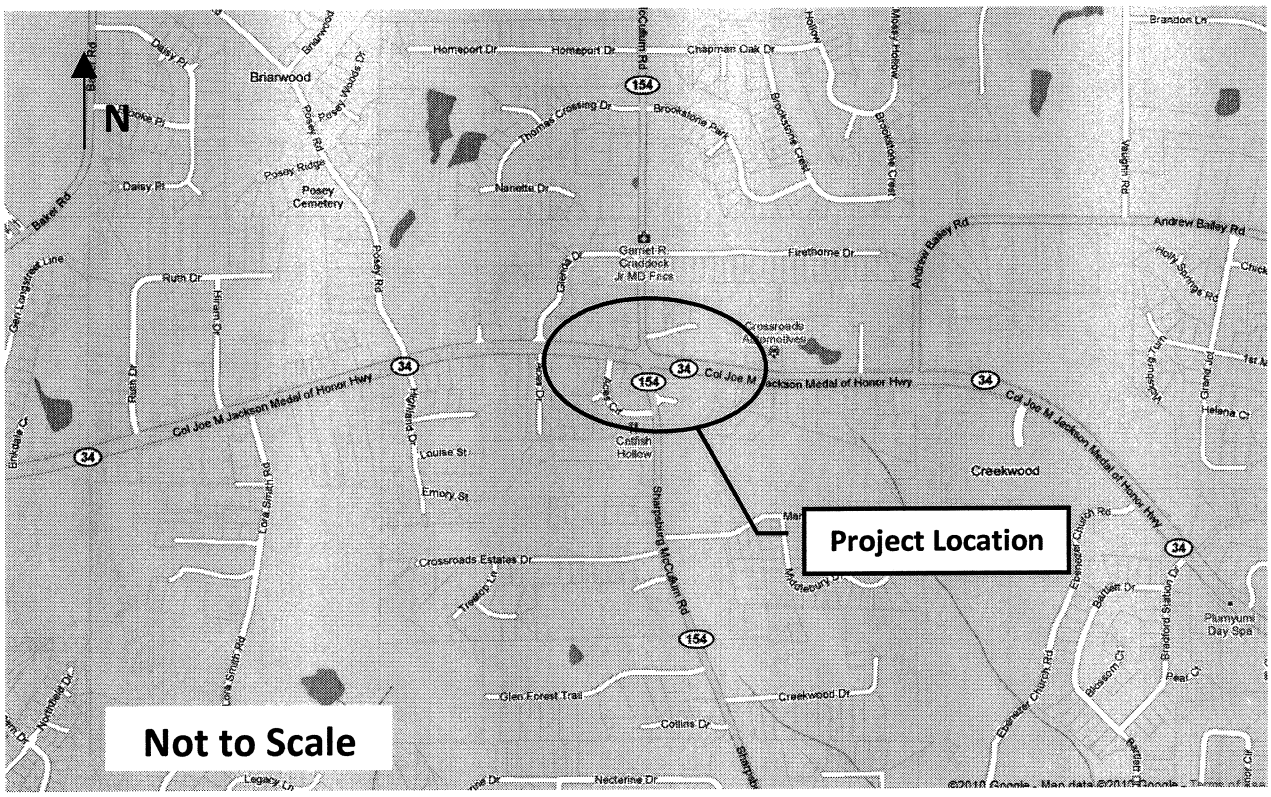
Recommended for Approval:

DATE 6-1-10 — State Traffic Engineer

DATE 6-3-10 — Director of Operations

Approved:

DATE 6/5/2010 — Chief Engineer



LOCATION MAP

Project: PI No: 0009721, Coweta County
Description: SR 34 @ SR 154

P.I. No.:
0009721

Route Number:
SR 34/Col. Joe M Jackson Medal of Honor Highway

Location:
The project is located in Coweta County at the intersection of SR 34/Col. Joe M Jackson Medal of Honor Highway and SR 154/Sharpsburg McCullum Road.

Description:
Proposed improvements consist of extending the eastbound and westbound left turn lanes on SR 34 at SR 154 utilizing the existing grass median. This project will add approximately 375 feet of storage to each left turn bay. All proposed work would be within the existing right-of-way. The proposed length of the project is 0.40 miles and is 100% in Coweta County.

This project satisfies the *Need and Purpose* by improving safety and operational efficiency through additional storage capacity for the SR 34 left turn lanes at the signalized intersection.

Traffic (AADT):
Current Year: 26650 (2007)

Existing Right of Way:
Approximately 200 feet.

Existing Traffic Control:
SR 34 at SR 154 is a signalized intersection.

Existing Major Structures:
None

Need and Purpose:
SR 34/ Col. Joe M Jackson Medal of Honor Highway is a major interstate access road for many large commercial and residential developments in Northeast Coweta County. This arterial intersects SR 154/Sharpsburg McCollum Rd which provides direct access to I-85. According to driver observations, there is extensive left turn queuing on SR 34 eastbound at the intersection of SR 154 during both the morning and afternoon peak hour. At times the queue spills into the through lane. Extensive through movement queuing on SR 34 westbound during the peak hours prevents left turning vehicles from entering the left turn lane. With optimized signal timing, the existing turn lanes do not accommodate the queue of vehicles which contributes to the deterioration of traffic flow on SR 34.

The project lies within the boundaries of ARC, Atlanta's Metropolitan Planning Organization (MPO). This project is programmed for operational improvement lump sum funds and is therefore categorized under the "operational improvement lump sum category" in the MPO's RTP or TIP.

Bicycle & Pedestrian Considerations:
Pedestrians and bicycles are not permitted in the 44-foot grass median along where the proposed improvements are to be constructed. Therefore, no pedestrian or bicycle accommodations or upgrades are included in this project.

Length:
2,100 feet (0.4 miles) along SR 34

Termini:
SR 34: From 1050 feet west of SR 154 to 1050 feet east of SR 154

PDP Class:
Minor

Functional Class:
SR 34/ Col. Joe M Jackson Medal of Honor Highway – Urban Minor Arterial Street

Design Speed:
SR 34/ Col. Joe M Jackson Medal of Honor Highway – 55 mph

Proposed Typical Section:
The proposed left turn lane extensions shall match existing grade. The existing typical section will be maintained.

Proposed Major Structures:
None

Type Access:
SR 34/ Col. Joe M Jackson Medal of Honor Highway – by permit

Traffic Control During Construction:
Existing signal operations shall be maintained during construction. Temporary lane closures are anticipated during median reconstruction.

Right-of-Way Requirements:
None Anticipated

Utilities:
No impacts anticipated.

Estimated Cost:

Item	Total Amount State
R/W	$0
Utilities	$0
Estimated LGPA Total	$0
Construction	$ 250,000
Engineering Inspection & Contingencies	$ (5%)
Total Construction	$ 250,000

Permits Required:
None

Level of Environmental Analysis:
Programmatic Categorical Exclusion

Level of Public Involvement:
None

Time Saving Procedures Appropriate: Yes (X) No ( )

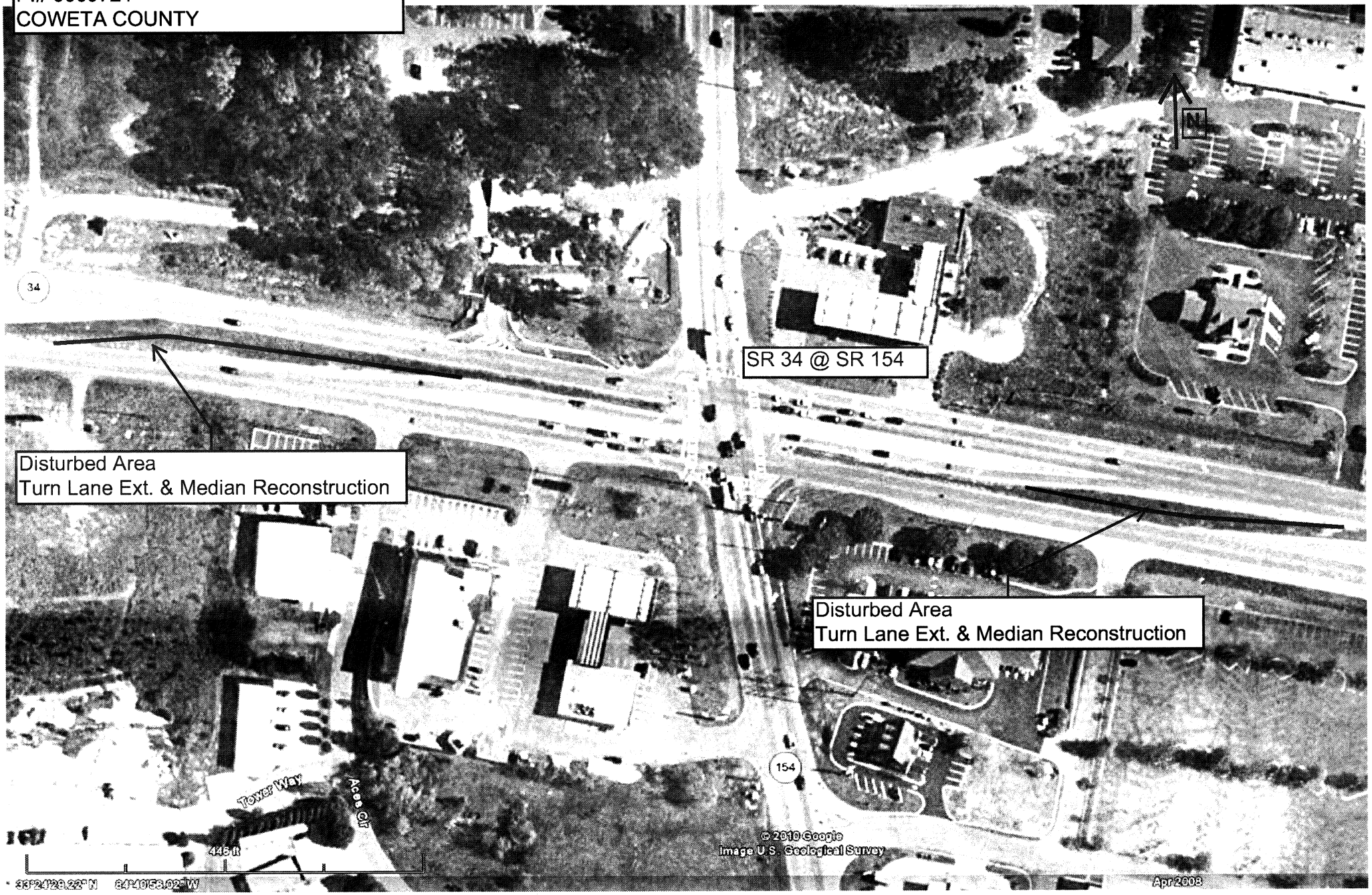
Design Variances Required:
None

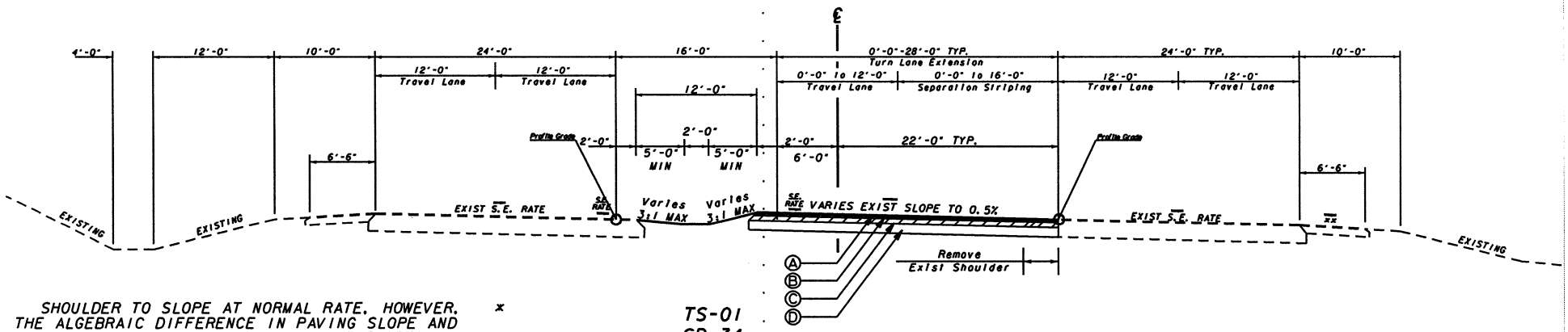
Alternates Considered:
No Build

Comments:

Attachments:
1. Design Sketch
2. Typical Sections
3. Capacity Analysis

OPERATIONAL IMPROVEMENT
SR 34 Left Turn Lane Extensions
PI# 0009721
COWETA COUNTY

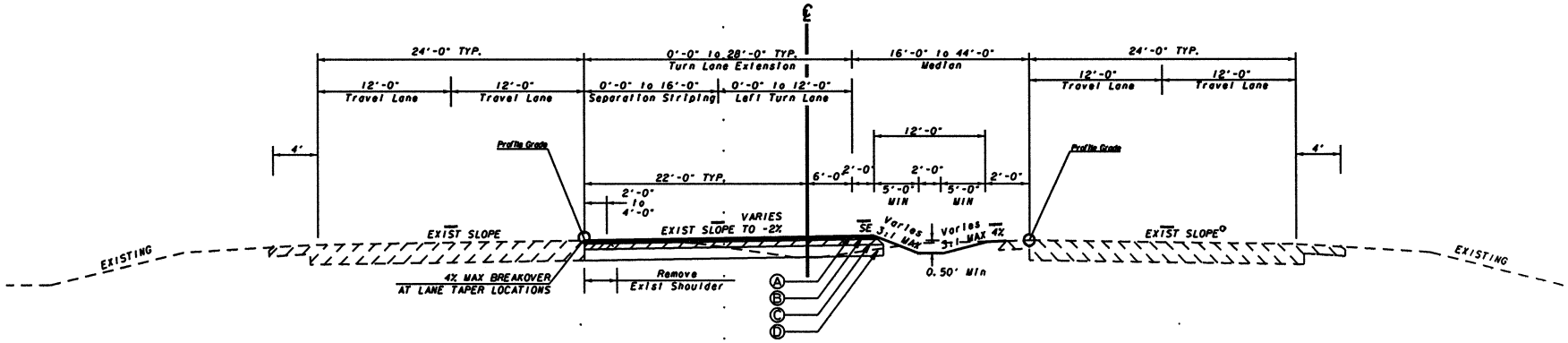




SHOULDER TO SLOPE AT NORMAL RATE, HOWEVER, THE ALGEBRAIC DIFFERENCE IN PAVING SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 8%. MINIMUM SHOULDER SLOPE TO BE 2%. *

SHOULDER TO SLOPE AT NORMAL RATE OR SUPERELEVATION RATE, WHICHEVER IS GREATER. **

TS-01
SR 34
Easbound Left Turn Lane
Pavement Addition
SUPERELEVATED SECTION



TS-02
SR 34
Westbound Left Turn Lane
Pavement Addition
TANGENT SECTION

Concept Only

(A) RECYCLED ASPH. CONC., 12.5 mm Superpave, GP 1 or 2 INCL BITUM MATL @ H LIME (165 lbs/sy)
(B) RECYCLED ASPH. CONC., 19 mm Superpave, GP 1 or 2 INCL BITUM MATL @ H LIME (220 lbs/sy)
(C) RECYCLED ASPH. CONC., 25 mm Superpave, GP 1 or 2 INCL BITUM MATL @ H LIME (880 lbs/sy)
(D) GR. AGG. BASE CRS. 12" INCL MATL
(E) PAVEMENT REINF FABRIC STRIP, TP 2, 18" WIDTH

DESIGNED BY: PDD	CHECKED BY:	DATE:	
	REVIEWED BY:	DATE:	

GEORGIA
DEPARTMENT
OF
TRANSPORTATION

NOT TO SCALE

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTA
OFFICE: TRAFFIC OPERATIONS
TYPICAL SECTIONS

SR 34
OPERATIONAL IMPROVEMENTS

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CAPACITY ANALYSIS: Intersection Study

0009721, Coweta County
SR 34 @ SR 154

Location:
The project is located in Coweta County at the SR 34 and SR 154/Sharpsburg-McCullum Rd intersection.

Project Description:
Proposed improvements consist of extending the eastbound and westbound left turn lanes on SR 34 at SR 154. This project will add approximately 300 feet of storage in each direction. All proposed work would be within the existing right-of-way. The proposed length of the project is approximately 0.40 miles and is 100% in Coweta County. This project satisfies the *Need and Purpose* by improving operational and safety efficiency at the signalized intersection.

Traffic Volumes (AADT):
Current Year: 26650 (2010)
Build Year: 29350 (2012)
Design Year: 41500 (2032)

Intersection Data:
Intersection level of service, as defined in the Highway Capacity Manual is the qualitative measure that describes the quantitative delay in seconds experienced at an intersection. Maximizing LOS at each intersection has a significant impact to the flow of traffic along the segment of SR 34 within the project limits. The intersection was analyzed using Synchro 7 and HCS+ Software to measure the overall quality the proposed intersection configurations. Traffic volumes for the 2012 Build Year and 2032 Future Year are based on field traffic count data. According to the queue analysis, existing turn lanes do not adequately address the demand of left turn volumes under optimized signal conditions in the future year.

Table 1: Intersection Level of Service

	2010 *(Existing)*		2012		2032	
	No Build	Build	No Build	Build	No Build	Build
SR 34 @ SR 154 (Synchro)	D (E)	D (E)	D (E)	D (E)	F (F)	F (F)
SR 34 @ SR 154 (HCS+)	D (E)	D (E)	E (F)	E (F)	F (F)	F (F)

Intersection Delay: AM Peak (PM Peak)

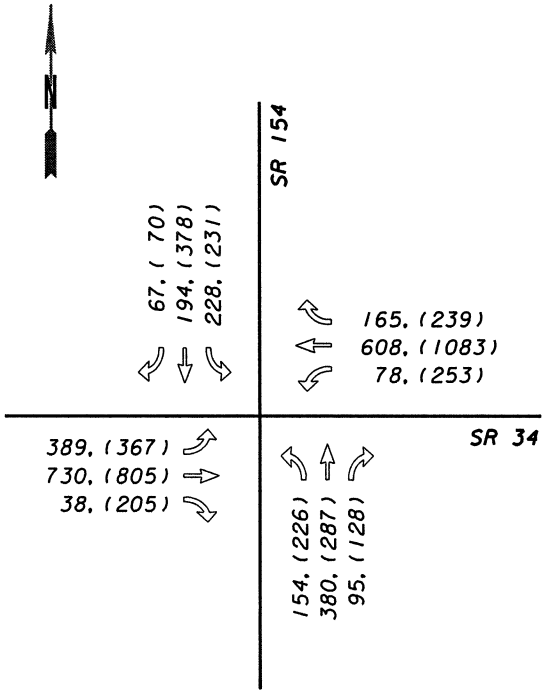
Table 1: Queue Analysis in feet (Synchro)

	2010 *(Existing)*		2012		2032	
	AM	PM	AM	PM	AM	PM
SR 34 Eastbound Left Turn	579'	677'	514'	647'	1031'	991'
SR 34 Westbound Left Turn	74'	261'	64'	*297'	166'	*707'

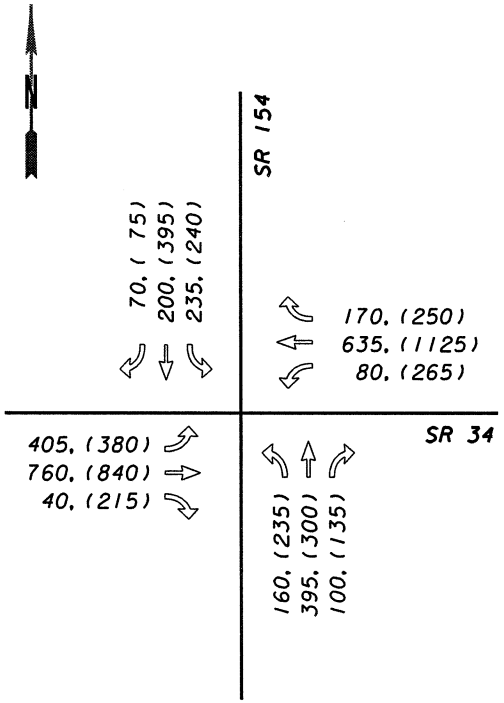
Existing Left Turn Lane storage lengths are 400'
* Observations in the field and of the Synchro 7 model show through vehicle queues prohibiting left turning vehicles from accessing the left turn lane.

Intersection LOS Reference Table

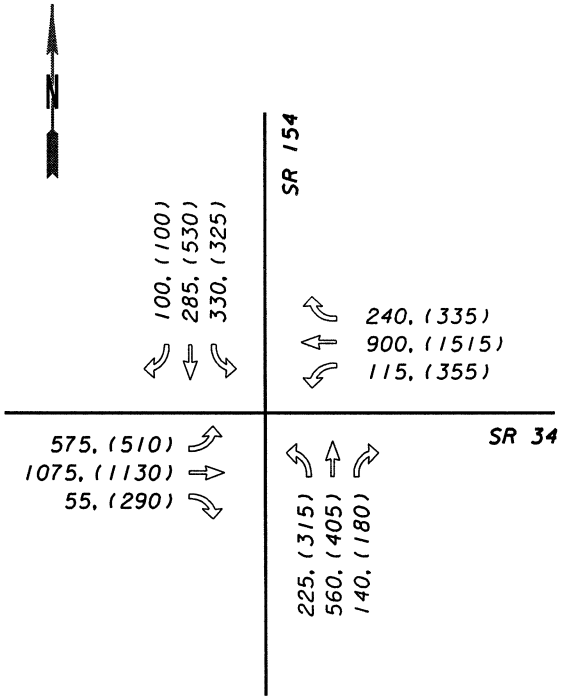
LOS	Total Delay	Interpretation
A	≤ 10 sec	Free Flow
B	10 – 20 sec	Reasonably Free Flow
C	20 – 35 sec	Stable Flow
D	35 – 55 sec	Approaching Unstable Flow
E	55 – 80 sec	Unstable Flow
F	≥ 80 sec	Forced/Breakdown Flow



Existing (2010)
Legend
AM (PM)



Build (2012)
Legend
AM (PM)



Design (2032)
Legend
AM (PM)

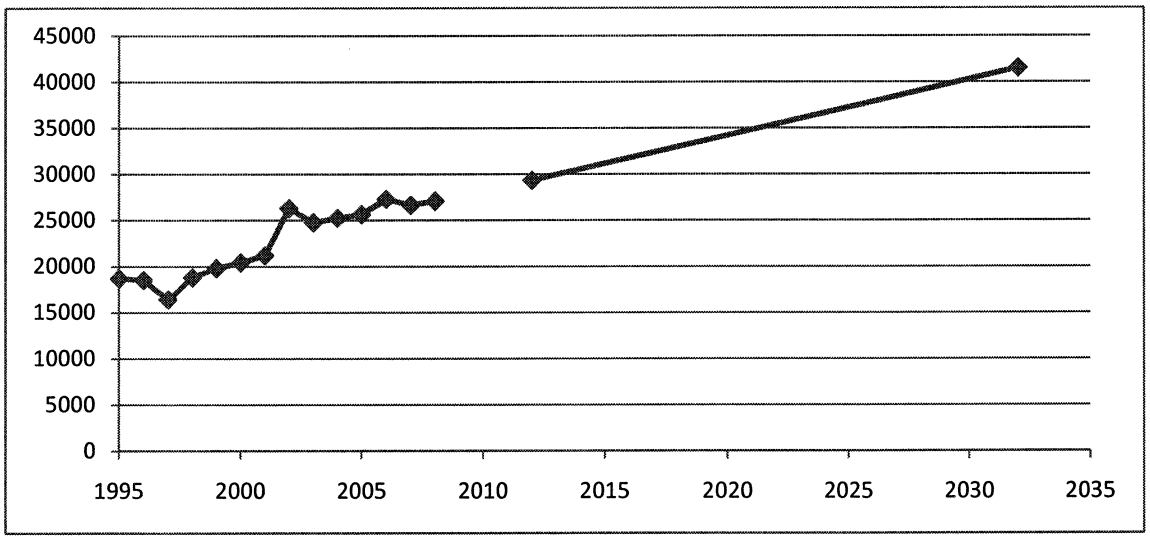
PI#0009721
SR 34 @ SR 154
Traffic Counts

Traffic Counts AADT Data

Location ID 0770252
SR 34

Data

2-Way Year	AADT		Count Type	dhv			
2008	27090	2%	E			Assumed Growth Rate	
2007	26640	-2%	A	2581	10%		
2006	27280	6%	A	2385	9%	Build Year:	2011
2005	25650	2%	E	2328	9%	Design Year:	2031
2004	25240	2%	A				
2003	24790	-6%	A				
2002	26308	19%					
2001	21200	4%					
2000	20400	3%					
1999	19800	5%					
1998	18800	13%					
1997	16400	-13%					
1996	18500	-1%					
1995	18700						
2012	29350						
2032	41500						

Explanation: Projected Trends have decreased Traffic Numbers in recent years due to economy. We will estimate a 2% growth from 2010-2012; and a future year growth of 1.75%.

(See Calculations)