GEE/TREC LOS Activity

This activity has two parts. The first part involves collecting data needed to quantify the Level of Service (LOS) of a section of Madison Ave. The second part is a qualitative assessment of the potential for Context Sensitive Solutions (CSS). You will run ARTPLAN 2009 software to determine the existing LOS.

#### GENERAL INSTRUCTIONS

Conduct a field survey using ArcMap to collect information about the physical and operational characteristics of the roadway

Other sources of information for input data are:

A database of traffic counts for major roadways in Memphis and Shelby County along with a reference map can be found on the TDOT website. If there is not a count provided for the section you are analyzing, use the closest location or use your best estimate.

<http://www.tdot.state.tn.us/TrafficHistory/>

Use the link below to find span of service and the frequency of the trollies.

<http://www.matatransit.com/trolleyService.aspx>

After completing the input data screens, run the program and use the results to answer the attached questions

#### CONTEXT SENSITIVE SOLUTIONS INSTRUCTIONS

For the second part of the assignment you will be analyzing potential context sensitive solutions (CSS). The most comprehensive source of information on CSS can be found on the Institute of Transportation Engineers (ITE) web site <http://www.ite.org/css>.

**INPUT DATA FOR *ARTPLAN 2009***

## **PROPERTIES [Screen #1]**

### Roadway Information

Road Name User supplied

Peak Direction User supplied

Off-Peak Direction Do not use

Area Type User supplied (large urbanized)

Class User supplied (class 2)

##### Analysis Information

Modal Analysis Multimodal

Type of Analysis Peak Direction

Study Period K100

### File Information

File Name untitled.xap

Analyst Optional

Analysis Date Optional

Agency Optional

User Notes Use this space to note the two end points of the facility you are analyzing

**INTERSECTIONS [Screen #2]**

Control Type User supplied (pretimed)

Base Saturation Flow Rate 1950

## Cross Street Name(s) User supplied (each intersection)

Cycle Length User supplied (120 sec)

Thru g/C 0.44

Arrival Type User supplied (3 – random arrivals) (1 = completely random, no priority; 6 = fully coordinated, high priority corridor)

# of Thru Lanes User supplied (count this for direction of travel)

% Left Turns 12

% Right Turns 12

Exclusive Left Turn Lane User supplied

Number of Left Turn Lanes User supplied

Total Left Turn Storage User supplied

Left g/C 0.15

Exclusive Right Turn Lane User supplied

**SEGMENT (AUTO) [Screen #3]**

Arterial Length Automatic

K Factor 0.097

D Factor 0.55

Percent Heavy Vehicles 2

Segment Automatic

Length User Supplied

AADT User Supplied

Adjusted Directional Hourly Volume Automatic

# of Thru Lanes User Supplied

Posted Speed User supplied (35 mph)

Free Flow Speed Automatic

Median Type User supplied (none, non-restrictive – ex. Two way left turn lane, restrictive – ex. Raised median)

**SEGMENT (MM) [Screen #4]**

Segment Automatic

Auto Outside Lane Width User supplied (narrow – less than 10 ft.; typical 10-12 ft.; wide - >13 ft.)

Specific Lane Width Leave blank

Bike Pavement Condition User supplied (desirable (new); typical- average; undesirable – potholes)

Paved Shoulder/Bike Lane User supplied (yes or no)

Sidewalk User supplied (yes or no)

Sidewalk/Roadway Separation User supplied (choose adjacent)

Sidewalk/Roadway Protective Barrier User supplied (planting strip or not?)

Obstacle to Bus Stop User supplied (yes or no)

Bus Frequency/Buses per Hour User supplied (MATA website)

Bus Span of Service (Hours/Day) User supplied (MATA website)

QUESTIONS - PART 1/LOS ANALYSIS: Madison Avenue (Watkins – I240)

1. What is the Automobile LOS for the entire facility?

2. What segment of the facility has the worst LOS?

3. What segment of the facility has the most intersection delay?

4. What is the Pedestrian LOS for the entire facility

5. What is the Bicycle LOS for the entire facility

6. What is the Bus LOS for the entire facility

7. What is the Service Volume per Hour in the Peak Direction at Level of Service C?

8. What could be done to improve the performance of the facility for Automobiles without widening?

**QUESTIONS - PART 2/CONTEXT SENSITIVE SOLUTIONS ANALYSIS**

9. What are your specific suggestions for changes to the Roadside?

10. What are your specific suggestions for changes to the Traveled Way?

11. What are your specific suggestions for changes to the Intersections?