

**EE/CpE 423-424  
WEEKLY STATUS REPORT**

<b>Group #</b>	<b>09</b>	<b>Week ending:</b>	<b>09/28/03</b>	<b>Report #</b>	<b>02</b>
<b>Project Title:</b>	<b>GPS Mass Transit Tracker</b>				
<b>Group Leader:</b>	<b>Andrew Zimmer</b>	<b>Advisor:</b>	<b>Bruce McNair</b>		
<b>Sponsor/Client:</b>					
<b>Total number of person-hours spent on project by group during past week:</b>				<b>18</b>	
<b>Is project on schedule?</b>		<b>Yes</b>	<b>[ x ]</b>	<b>No</b>	<b>[ ]</b>

**Weekly status:**

This week we met for the first of our weekly meetings and broke the project research into a number of areas:

- Web Site: Anthony
- Database & Acquisition: Andy
- GPS chips / modules: Tom
- Communications: Andy

Anthony has looked over the deliverable format for the group website as well as some of last year's sites. He has also begun construction.

It appears that the best way for data acquisition is using Pro SQL (Oracle). Unfortunately, cost constraints may force us to use other methods (possibly MS Access) to collect and organize tracking information from busses and trains. More efforts will be made this week to see if Stevens has a student copy of Pro SQL.

Research has continued on viability of constructing our own GPS transmitter vs. using an off the shelf unit. Tom has an off the shelf receiver that supports RS232. We can use this as a fall back if necessary. Since the receiver will be the core tracking device, it is a crucial element in this project. Several alternatives have been explored to approach this component:

**New Information:**

- **Motorola** ([www.motorola.com/gps](http://www.motorola.com/gps)) manufactures GPS components and chip sets. An evaluation kit is available through [www.synergy-gps.com](http://www.synergy-gps.com) for \$750. This firm offers an educational discount; a request for details has been made.
- **SiRF** ([www.sirf.com](http://www.sirf.com)) manufactures GPS components and chip sets. An evaluation kit is available for \$995.
- **Delorme Professional** ([www.delorme.com](http://www.delorme.com)) offers a packaged GPS receiver - Earthmate. It utilizes the SiRF chip set, interfaces to a host via USB, and includes mapping software. This receiver is available through [www.thegpsstore.net](http://www.thegpsstore.net) for \$120 with mapping software.

Finally, methods for transmission from busses and trains to database has lead to a few options:

- Wi-Fi networks – there are many outdoor receivers that support distances of up to 25 miles. In the city area, this may be significantly reduced, but 1-3 per city may be sufficient.
- CDPD wireless card that utilizes cell networks. Unfortunately, every bus/train would have to have one of these connected almost continuously (large amount of air time).
- Blue Tooth – Range is too short for busses, but could be set up at each bus stop for user end PDA communications.

**Weekly report is due to Senior Design Coordinator by Noon Monday**