Maps and GPS

- In the first week, you went on a waypoint hunt. Plot your waypoint coordinates on the map. Does it come out where you expected?

The first picture here shows our waypoint hunt. The Dot in the upper rand hand corner is the front of Frist Campus Center, while the point in the bottom left is the bicycle rack. The picture on the right shows a zoomed in focus on the bike rack. It appears just about precisely where we found it, in that back corner of the parking lot, next to the gold course. Accuracy is within about a meter here.

- After returning from the hike/ride, note what your GPS receiver says about the total mileage, average speed, maximum, speed, total climb (for receivers that compute this), etc.; basically, everything your receiver calculates.

My receiver did not keep running totals of these variables, but could only save the data from which I could compute it later. The only value it gave an estimate for was average speed: about 3.4 miles/hr.

- Overlay the track of your hike/ride on the map. Does it come out where you expected? If not, what's going on?
For the most part, the track seems accurate when viewed overall, like it appears in the figure below. It shows the loop we took from Frist, down along the tow path, up Harrison St, and over on Prospect Avenue.

However, there are times when the marked trip seems not to line up with the actual route we hiked. For instance, at the intersection of Washington Rd. and Faculty Rd, our path is shown distinctly south of where we actually crossed the road (we went from the North West corner to the South West corner, and then to the South East corner). Additionally there are portions of the tow path where our route is plotted in the middle of the water, instead of on the path alongside the canal. A similar error to this occurs on the Harrison St. bridge, where our position is shown on the East side of the bridge, whereas in reality we traveled on the bridge’s West side. All three examples are shown below:
For a further look, here is a link to the Google Map I created using GPSvisualizer.com:

http://gpsvisualizer.com/display/1172346330-26971-140.180.16.60.html

- Import your track log into a spread sheet. Can you calculate the total distance, average speed, total climb, etc., from the data in the track log?

According to my calculations in the attached spread sheet:

Total Distance (meters):
4360.9692

Total Time:
46:40:00

Average Speed (m/min):
93.449353

Average Speed (m/s):
1.5574892

- How well do you and your partner's track logs and calculations agree?
Grayce has been unable to upload her data thus far, so now comparison can be made yet.