CMaP PROJECT

Cody Curtis
West Hills Middle School
CMAP Pleasant Grove 2008

Project Title: Commuter Traffic Control

Project Description	Using GPS technology, students will track commuter routes to West Hills Middle School for both the student body and faculty. Students will be measuring the distance of commute and proximity of starting point. Students will then map the commuting routes in order to identify efficient car pool groups for the student body as well as faculty members. The completed car pool groupings will then be presented to the School PTSA and Community Council to propose the implementation of a School Car Pooling Plan. Additionally, a web page will be constructed for students and faculty to sign up for a specific car pool group.
Community Issue or Problem Selected -How project evolved?	Due to a high number of parents driving their students to school, traffic entering West Hills Middle School before and after school hours has increased. In order to reduce the vehicle traffic around the school and to help conserve natural resource consumption, students will explore ways to cut down the number of vehicles driven to our school.
Community Partner(s)	West Hills Middle School administration, School PTSA, School Community Council, West Jordan City.
Project Objectives	- Identify the commuting routes of students and faculty at West Hills Middle School. - Create possible efficient car pool groupings for students and faculty. - Propose a School Car Pooling Plan to parents in the community.
Utah Core Standards/Objectives	Geography for Life Standard 1: Students will understand the world in spatial terms. Objective1: Use maps and other geographic tools to acquire information from a spatial perspective. Standard 6: Students will use geographic knowledge to connect to today's world. Objective 2: Apply geographic concepts to interpret the present and plan for the future.
Essential Question(s) -Spatial Issue	- Can students and teachers reduce traffic at West Hills Middle School by car pooling?

	- How could current commuting patterns of students and faculty at WHMS be organized into an efficient car pooling plan? - Are the locations of student/faculty commuting routes conducive to car pooling?
Assessments (rubrics, scoring guides)	Students will be assessed during this project based on the following: - GPS and GIS workbook activities. - Individual Commute Maps: produced through ArcGis and based on a scoring rubric, outlining what must be included on the map. - Car Pool Group Maps: in groups students will create maps through ArcGis to propose a car pool group for an assigned area. Scoring will be based on a rubric that outlines required information. - Overall success of the project will be assessed by comparing traffic data at the school before and after the implementation of car pool groups.
Project Products	- Individual Student Commute Maps - Class Commute Map - Car Pool Grouping Map - Web Page for Car Pool sign -up
Project Timeline (include a step by step Procedures)	GPS and GIS training – one week - Students will learn how to use the GPS units and GIS software through in-class activities. Data Collection – 5 to 10 days - Students will take home a GPS unit to track their commute route and starting point. Depending on how many GPS units are available, this step may take more time. Data collection can be done while other content is being covered in the classroom. Organizing and Displaying Data – 3 to 4 days (depending on access to computer labs) - Students will download commute data into ArcGis software to create an individual commute map as well as a class commute route map. - In cooperative groups, students will then create car pool areas based on common commute routes. Presentation and Celebration – 2 days - Students will prepare a slide presentation using Power Point to display their data and proposed car pool plan. - A selected group of students will present the School Car Pool Plan to the Community Council and PTSA. - Additionally, linking with the computer tech class, students will design and create a web page for all

	students to view and sign up for a car pool group.
Resources Needed	- Individual GPS units (Classroom Set) - Access to computer lab - ArcGis 9.2 software - Data gathered by students/faculty
Skills Required	- Using GPS to collect data - Download/Display data using ArcGis - Produce/Display maps of data using ArcGis
Project Team Member Roles	**Teacher(s):** - Teach GPS and ArcGis skills. - Introduce research question and project. - Guide students through community project. **Students:** - Learn GPS and GIS technology. - Gather transportation data using GPS. - Produce maps displaying data. - Organize and create car pool groupings. - Create web page for car pool sign-up. - Present School Car Pooling Plan to community. **Partner(s):** - City-Provide data of neighborhood maps and traffic data. - WHMS Administration – promote school plan with faculty. - Community Council/PTSA – promote and advertise school plan with parents in the community.
Celebration/Presentation	- Presentation to Community Council/PTSA - Class rewards for participating in School Car Pool Plan. - Publication of School Car Pool Plan web page.
Project Evaluation	- Students will be evaluated on the creation of a personal map of their commute. - Students will evaluate the success of the project by comparing the number of vehicles that enter the school before the implementation of the School Car Pool Plan to the number of vehicles one month after implementation.
Project Bibliography	Utah Geographic Alliance www.uen.org GIS/GPS Academy

	http://gis.utah.gov
Plans for Future CMaP Activities	- Extending the School Car Pool Plan to the West Jordan community. - Mapping current UTA bus routes and stops, collecting community survey data and proposing additional routes and stops.