



2011 TRANSIT Camp

College of Engineering & Science

Celebrating 100 years of Engineering Excellence!

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Meeting the Future Needs of Transportation Flow 2011

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Class Theme:

Reducing Congestion in our Urban Communities, Technology, Social Implications, & Strategies

Now in its fifth year, TRANSIT Summer Camp, engaged metropolitan Detroit area students in a week of innovative programming at the University of Detroit Mercy (UDM), exploring Transportation Engineering as a field of study, and career choice. This year's participants were a unique group- all male, with the exception of one female, each from different high schools. There were two students from the Downriver community who participated through the generous support of the Colina Foundation. This year's camp introduced students to the field of Transportation and issues that will be faced in the near future. Safe, secure, and efficient transportation systems are essential to the economic viability, quality of life, and strength of our nation. Hands-on projects, guest speakers from industry, field trip(s) and expert university input from Civil and Mechanical Engineers provided information that opened up a whole new area of study and career path for participants.



Day I Pamela Rhoades Todd, Director, Pre-College Programs, College of Engineering and Science at the University of Detroit Mercy, welcomed the students and gave them an overview of the Department of Transportation and Colina Foundation grants and their objectives.

Presentations began with an excerpt from the movie, "The Italian Job." In this movie, bank robbers 'hack' into traffic and stalled computers so that robbers can have a "clear" get-away. The students were familiar with the movie and could relate to traffic control issues, a perfect start for the week.





Next, Dr. Uptal Dutta from the University of Detroit Mercy's College of Engineering and Science presented a computer simulation that helped students understand "Traffic Flow at Signalized Intersections." Students left this session thinking about important intersections in their neighborhood and why there are so many problems in some areas. The simulation helped students visualize problems that were discussed.



The morning was completed with a presentation by Tiffany Gunter from the Southeast Michigan Council of Government, (SEMCOG). Ms. Gunter discussed current rail initiatives in our region. She discussed both funding needs and the politics of getting projects initiated in the Metropolitan Detroit Area. Students were very interested in current initiatives in the Metropolitan Detroit area and asked a variety of serious questions of Mrs. Gunter.



Every afternoon of the camp, instructor, Mrs. Laurie Santavicca, presented lessons from the TRAC Program, (Transportation and Civil Engineering modules developed by the Michigan Department of Transportation). These hands-on activities engaged students in learning that had a direct impact on lectures provided by professors and volunteer engineers from industry.





Day II began with Ms. Christina Heximer and members of the Detroit Collaborative Design Center, a division of the UDM School of Architecture, who spoke about the “Architecture of Urban Planning and Transportation.” They discussed the flow of transportation from the perspective of urban planning and the use of land. Students heard a brief history of Detroit and the introduction of freeways in the city and learned how Detroit lost its original transportation system. Students then discussed ideas for improvement in the future.

After a short break, students listened to a presentation by Dr. James Lynch, Civil Engineering Professor from the University of Detroit Mercy’s College of Engineering and Science. He discussed and modeled how to make concrete and the importance of concrete in the ‘world of transportation.’ Students were very engaged and had several questions about concrete and how it is made. Students made their own concrete and set it aside to be tested later in the week.



After lunch, students participated in a campus tour conducted by UDM students from the University’s Admission Department.



Today in the TRAC session, Mrs. Santavicca helped students understand road construction and control of water flow issues.



Day III was our Field Trip experience.....



Presenters, Dawn Bierlein and Danielle Deneau, of the Road Commission for Oakland County, presented an exciting and informative overview of ways in which technology is currently used and discussed future uses to help control traffic safety and flow. This field trip is always the highlight of the camp because visiting the Road Commission site shows the actual tracking of traffic and how it can be controlled. More information about the Oakland County facility can be found at:

http://www.rcocweb.org/AboutUs/About_Us.aspx



After returning from lunch.....

Today in the TRAC session, Mrs. Santavicca provided the framework for students to simulate a small town decision-making process that involved improved transportation that resulted in better safety for pedestrians and drivers. Students played the roles of politicians, community members, law enforcement and city council members. Students soon discovered that it was not easy to get the job done!





Day IV began Dr. Alan Hoback from the University of Detroit Mercy College of Engineering and Science, Department of Civil, Architectural and Environmental Engineering. Through his presentation, students learned about concepts of “Social Justice in Transportation.” Participants had a lively discussion about political and social influences that can effect transportation decisions. Students left with many questions and concerns.



Later in the morning, Ms. Cheryl Gregory from Spalding DeDecker, spoke about **Perspectives from a Traffic Engineer**. She brought equipment that allowed students to test how velocity and mass can effect an accident. Students also received an opportunity to simulate how a ‘meg-lev’ vehicle might operate.



After lunch, students simulated a ‘run-away’ truck and methods that would best work to stop the truck. Mrs. Santavicca provided ramps, toy trucks and several different substances that simulated actual materials used on highways.



Day V, the last day of camp, began with reports by various students. They were then asked to review professional articles from engineering magazines.

Next, **Dr. Alan Hoback** returned to speak to students about study and careers in Transportation Engineering. Students learned about skills and classes needed, the benefit of a cooperative education experience in building career decisions, what experiences a co-op student actually has during their paid co-op term, and many of the potential benefits of a career as a Civil Engineer. They had several questions about engineering and the University of Detroit Mercy (UDM).



Students then tested their concrete samples made on Tuesday. Since concrete is so important in transportation, this was a very significant process for the students to observe and engage in.



Students enjoyed a very informative presentation by **Mr. Joe Stinnett**, an Engineer from Ford Motor Company. Mr. Stinnett spoke about ‘Intelligent Vehicles’. Students learned about passive and active prevention strategies to avoid accidents. They also learned about “vehicle to vehicle” and “vehicle to infrastructure” technology through which vehicles will be able to communicate with each other, roadside signs and be able to “see” pedestrians even before the driver sees them. Participants then went outside and

viewed a vehicle that could drive without a driver. They also saw how vehicles communicate with each other and surrounding elements.





After lunch, two police officers from the **Detroit Police Department**, presented a demonstration about driving under the influence of alcohol and other drugs and its dangers. Students participated in the opportunity to drive under normal conditions, then wore fatal vision goggles that simulated driving under the influence.

Officers then spent time talking about the importance of ‘smart driving’ decisions on our highways.



Transit Camp was terrifically successful!

Thirteen students showed up every day and learned much more than they expected about Transportation Engineering, Careers in general and the University of Detroit Mercy. Students were awarded with completion certificates and scholarship tuition waivers applying to the study of engineering at UDM. Many students expressed their thanks the instructors and the staff for a great experience!



Congratulations to all of the 2011 TRANSIT Campers on a job well done!

Camp Coordinator James Buri and Pre-College Program Director, Pamela Rhoades Todd stand with proud camp participants at the end of a very enriching summer experience!