



User Group 2008

July 14th to 15th

2008 Paramics North American User Group Meeting

We are pleased to announce the 2008 Paramics North American User Group Meeting (UGM) held at Rutgers University Busch campus Piscataway New Jersey July 14th – 15th.

This annual event will feature innovative project case studies and cutting edge research presentations by Paramics users. In addition demonstrations of new Paramics features and applications will be provided by Paramics staff. UGM attendees will be the first to see live demonstrations of the new pedestrian modeling tool, the Urban Analytics Framework, and each delegate will leave the event with an advance copy of the next major release (V6.5) of the core Paramics tools.

The Paramics UGM is an essential event for users of any experience level from all aspects of our user base. The UGM will allow users to meet other member of the Paramics community, share ideas, discover interesting applications of the software, meet the Paramics staff, learn about upcoming features, and be able to vote on future feature additions to the core Paramics tools.

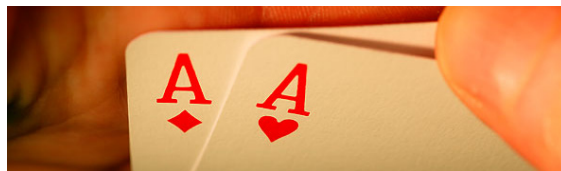
Social Events

In keeping with our Scottish heritage we will be hosting the 1st Annual Paramics Golf Tournament the day before the UGM (13th July) at the Rutgers University Golf Course. The format of the tournament will be a four-man scramble, perfect for experienced golfers and "grass hackers" alike. In the spirit of friendly competition, prizes will be awarded for the winning team(s). Following Scottish traditions prize bundles are likely to include something brown, liquid and at least 10 years old!



View the course at <http://golfcourse.rutgers.edu>

On the evening of the 14th we will also be hosting a Texas Holdem Poker Night which will be accompanied by a free bar and snacks, all included in the registration price.



How Can I Present?

As a presenter, the UGM is a fantastic opportunity to showcase your project case studies and research work to the wider microsimulation community. Academic and commercial users are invited to submit abstracts to be considered for a presentation slot during the 2 day event.

Presentation slots are flexible with time ranging from 20-40 mins. Spaces are limited so we encourage you to act early and submit your abstract in TXT or PDF format by May 23rd to paramics-admin@paramics-online.com or call the North American Paramics team at (617) 457-5225.



User Group 2008

Earn PDH Credits

The Paramics User Group Meeting has been specifically designed to allow delegates to earn continuing education for professional engineers (PDH credits). Delegates will earn 12 PDH's for attending while presenters can earn further PDH credits depending on the duration and content of their presentations.

Presenters should check with their governing boards for more information regarding earning additional PDHs.



Event Schedule Overview

13th July 2008 - Golf Tournament

Optional pre UGM Paramics Golf Tournament, first tee off 3pm

14th July 2008 – UGM Day 1

8am registration, 9am first session, close 5pm

14th July 2008 – Poker Night

Optional friendly, social poker night. Rules to be decided on the night. Open bar and food. From 6pm - 9pm

15th July 2008 – UGM Day 2

9am first session, closing 4pm

More information on the specific sessions during this two day event will be made available once presenters have been selected.

Registration Fees and Accommodation

Early bird discounted registration is \$300 until June 6th 2008; thereafter the standard registration fee of \$450 applies. Academic discounts of \$50 are available on both early bird and standard registration fees as are additional presenter discounts of \$100. Additional fees for the optional pre UGM Golf Tournament are \$75 and additional guest's tickets for the Poker Night are available for \$80 to cover an open bar and food.

Poker: Should you wish to bring a non user group guest there will be an additional \$80 charge. Please inform us as soon as possible if you will be doing so.

Accommodation: These costs are not included in the registration fees however special discounted rates of \$135 per night will be available at:

Embassy Suites Hotel – Piscataway/Somerset
 121 Centennial Avenue
 Piscataway, NJ 08854
 (732)980-0500

Cancellation Policy: If a participant wishes to cancel, he/she will not be charged any fees up to 14 days prior to the event. If participant cancels 14-7 days prior to the event, he/she will be charged 50% of the fee. If cancellation is within 7 days of the event no refund will be given. Substitutions can be made at anytime. Quadstone Paramics Ltd. reserves the right to cancel the event with 21 days notice.

Please email paramics-admin@paramics-online.com for more information or call the North American Paramics team at (617) 457-5225.

User Group Registration Form

Title:

First Name:

Last Name:

Organisation:

Email Address:

Telephone:

Address:

State:

Zip:

Special Dietary Requirements:

- Early Bird Registration Fee \$300 - valid until 6th June
- Standard Registration Fee \$450 - valid after 6th June
- Academic Discount \$50 off
- Attending July 13th UGM Golf Tournament \$75
- Attending July 14th Poker Night
- Presenter Abstract Submitted

Total: \$

Submit your completed form...

By Mail: Quadstone Paramics, Portrait International, 125 Summer Street, 16th Floor, Boston, MA 02110

By Fax: You can fax the completed form to 617 457-5299

By Email: You can email your registration details to paramics-admin@paramics-online.com

Online: You can complete this form online at <http://www.paramics-online.com/usergroup.php>

Once your registration is received an invoice to your registration email will be issued including details of payment options. Presenter discounts of \$100 will be applied when invoices are issued once presentation abstracts have been received and accepted.

Full Event Schedule

July 13th, 2008

Golf Tournament (afternoon)

July 14th, 2008

08:00am - 09:00am - **Registration** (Coffee & Breakfast)

09:00am - 09:15am - **Opening**

09:15am - 09:45am - Validation of a Micro-Simulation Model in a Downtown Traffic Analysis

09:45am - 10:15am - Evaluation of Incorporating Hybrid Vehicle Use of HOV Lanes

10:15am - 11:00am - Using Micro-simulation techniques for bid evaluation

11:00am - 11:30am - Using Paramics for Unconventional Traffic Analyses

11:30am - 12:30pm - **Lunch** (included)

12:30pm - 01:30pm - Paramics Update - V6.5, Peds & Future Developments

01:30pm - 02:00pm - Indianapolis Northeast Transit Alternatives

02:00pm - 02:30pm - Cape May Hurricane Evacuation Study

02:30pm - 02:45pm - **Break**

02:45pm - 03:15pm - Destiny: A New Florida City

03:15pm - 04:00pm - University of Toronto Projects

04:00pm - 04:30pm - Project Prioritization Using Paramics Microsimulation

04:30pm - 05:00pm - New Meadowlands Stadium Development

06:00pm onwards - **Poker Night**

July 15th, 2008

09:00am - 09:30am - SR-91 Managed Lanes Project

09:30am - 10:00am - Lower Manhattan Street Management Project

10:00am - 10:30am - Development of TMC Simulator for Operator Training

10:30am - 10:45am - **Break**

10:45am - 11:15am - Modelling Lane Reversal Operations during Major Events at the Calgary Stampede Park

11:15am - 11:45am - TBA

11:45am - 12:15pm - Corridor Management Plan Demonstration in California

12:15pm - 03:45pm - **Break Out Session** (with lunch included)

For more details please read the "Presentations and Presenters" guide on the following pages.

This listed schedule is open to change

Presentations and Presenters

We've listed below a few of the confirmed presentations for the user group meeting. This was correct at the time of publication and subject to change as more presentations are expected.

Destiny: A New Florida City (30 minutes)

D. Scot Leftwich, Ph.D., P.E. (Leftwich Consulting Engineers, Inc.)
Orlando, FL

The greatest strength of the micro-simulation is the ability to analyze traffic operations for an existing urban area, or how a small change to the existing traffic network may affect the stability of those operations. Leftwich Consulting Engineers Inc. has decided to use the Paramics micro-simulation with a slightly different goal in mind. Paramics micro-simulation is utilized in the planning process of development. Instead of analyzing an existing urban area, it is used to correct problems that may arise in the planning phase. Destiny is to be Florida's newest "city" in Central Florida with more than 80,000 residential units, 10 million square feet of non-residential space, and 20 schools expected at Project Build-out in Year 2050. As expected, the planning of such an extensive roadway network from the ground up is quite complicated, but with the help of Paramics, the task of determining the functionality of design has become much more efficient. Leftwich Consulting Engineers Inc. has completed the preliminary construction of the Paramics model which encompasses the entire proposed roadway network on a block-by-block scale to ensure that every available route can be used in the simulation.

(a) Development of TMC Simulator for Operator Training (30 minutes)

(b) Evaluation of Incorporating Hybrid Vehicle Use of HOV Lanes (30 minutes)

Lianyu Chu (CLR Analytics)
Berkeley, CA

(a) The primary objectives of a TMC are to detect and verify incidents and then take appropriate actions to avoid and relieve traffic congestion. A typical TMC in California utilizes an integrated traffic management system platform, named Advanced Transportation Management System (ATMS), to access all Intelligent Transportation Systems (ITS) elements within the district or region. ATMS is able to display real-time traffic data collected from vehicle detection stations and the corresponding traffic conditions on a map-based display. ATMS also provides the control of all Changeable Message Signs (CMSs), which allow operators to post traffic management messages, and all CCTV cameras, which allow TMC staff to monitor traffic and incidents. TMC staff also utilize the California Highway Patrol (CHP) Computer Aided Dispatch (CAD) system to learn of emerging incidents and track their status as this system provides a direct reflection of incidents in the field. Using the cutting-edge microscopic simulation modelling techniques and a comprehensive simulation management scheme, a TMC simulator was developed and made operational at the California Advanced Transportation Management Systems (ATMS) Testbed, located at University of California Irvine (UCI).

(b) This presentation explains a project that investigates the effects of the hybrid-HOV policy in California. High-Occupancy Vehicle (HOV) lanes have been regarded as a cost-effective and environmental friendly option to help move people along congested routes. Many states in the US have deployed the policy to allow hybrid vehicles to use HOV lanes, with the expectation to reduce vehicular emissions by encouraging drivers to use fuel efficient vehicles as well as ease traffic congestion through the more efficient use of the reserved capacity on the HOV lanes.

Indianapolis Northeast Transit Alternatives (30 minutes)

Adam Lanigan (Jacobs Engineering)
Morristown, NJ

A study was undertaken to provide analysis on the operation of three transit technologies (Light Rail Transit, Bus Rapid Transit, Automated Guideway Transit) over the length of four proposed alignments to serve the residents of the City of Indianapolis and its northeastern suburbs. Using the Paramics microsimulation package, the study team laid out the potential on-street alignment (median, curbside, or elevated) for operational analysis. Individual models of varying sizes were created for several critical points along the four proposed alignments for each technology and time period (AM and PM Peak Hour) - resulting in 80 total models. The various alignments and alternatives were compared through analysis of corridor travel times, transit service times, impact on other traffic and circulation patterns, and complexity of implementation, among other factors. Wide use was made of the 3D 'PMX model' capability for developing the visualizations of transit operations. Transit vehicle shapes were developed using CAD software for each of the transit technologies, conceptual station platforms & shelters were prepared, and support columns for the elevated AGT technology were sketched and placed along the alignments. Movies were made of each model for use in public presentations and for viewing by non-technical client staff, resulting in 155 movie files.

Lower Manhattan Street Management Project (30 minutes)

Varanesh Singh (ARUP)
New York, NY

New York City Economic Development Corporation (NYCEDC) and the New York City Department of Transportation (NYCDOT) have enlisted Arup and its sub-consultants to provide planning and engineering services for the Lower Manhattan Street Management Study. A key component of this study is to produce a traffic simulation model that captures the unique characteristics of the streets and users of Lower Manhattan. NYCDOT and Arup have selected Paramics as the modeling platform of choice and have been building the model in various functional stages. This presentation will summarize the various stages of model development and touch on some of the challenges faced and how they were addressed.

Modelling Lane Reversal Operations during Major Events at the Calgary Stampede Park (30 minutes)

Timothy Oketch, Ph.D, P.E. (TSH Associates)
Whitby, ON

This paper presents traffic modelling that was undertaken as part of a Study to develop an automated reversible lane system for the southern access street to Calgary Stampede Park in Calgary, Alberta. A manual lane reversal scheme is usually implemented on the four lane street during event entry and exit to provide greater capacity for the heavier flow. The manual system is implemented by use of bollards and signs along the street and at the intersection with an arterial road, but an automatic system is under consideration.

Micro-simulation modelling was applied to support the Study objectives by facilitating consideration of various complex issues in the traffic analysis. It also facilitated assessment of volume thresholds at which lane reversal is required on the street during events. The analysis was undertaken using the Paramics micro-simulation model and involved modelling the southern park area including 3rd Street and a section of the intersecting arterial road (25th Avenue). That section included six signalized intersections. The model incorporated delays experienced at the parking payment booths as well as operations of the Light Rail Transit service that crosses the arterial road.

Project Prioritization Using Paramics Microsimulation (30 minutes)

Kevin Chen (Dowling Associates, Inc)
Oakland, CA

A Case Study for the Alameda County Central Freeway Project

The Alameda County Congestion Management Agency (ACCMA, California) sponsored a study to prioritize a funding sequence among various combinations of all potential improvement projects in the jurisdiction. This study includes evaluation of various alternatives over a total of fifteen (15) miles of freeway on I-880, I-238, and I-580, which consisted the freeway system in the central county area. Paramics was selected as the microsimulation tool, along with the Alameda Countywide travel demand model (implemented using CUBE), to produce the necessary performance measures to facilitate decision making. This presentation includes a description of the project, the traffic modeling processes, challenges of the technical analyses, as well as summary of findings and recommendations.

SR-91 Managed Lanes Project (30 minutes)

Leo Tsang (Parsons Brinckerhoff)
Princeton, NJ

The purpose of the SR-91 project is to manage traffic flow in this vital east-west corridor in southern California, through the creation and extension of managed (HOV/HOT) lanes. Paramics is being used to model the managed lane alternatives to optimize traffic flow in the corridor and create access/egress scenarios that minimize congestion in and around the complex weaving areas. Paramics is also being used to help develop maintenance and protection of traffic (MPT) during the construction phases of the project.

Cape May Hurricane Evacuation (30 minutes)

Keir Opie (NJIT)
Newark, NJ

In a study recently completed by NJIT, Paramics was used to simulate the traffic conditions that could occur during an evacuation of the Cape May Peninsula (southern New Jersey) preceding a hurricane strike. While the best case evacuations could be completed in 15 hours, the worst case simulated scenarios took more than 3 days to evacuate the county. In addition to the study findings, special techniques that were developed to simulate evacuation conditions and to allow a multi-day traffic simulation in Paramics will be discussed.

Title to be announced (30 minutes)

Matt Juckes (Stump Hausman)
Metuchen, NJ

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Using Paramics for Unconventional Traffic Analysis (30 minutes)

Bekir Bartin (Rutgers)
Piscataway, NJ

Paramics micro simulation software allows traffic analysts to incorporate network specific driver behavior and infrastructural characteristics with the use of its Application Programming Interface (API). With the use of API, traffic analysts can go beyond the conventional traffic analyses and increase the validity of the simulation results. This presentation includes the validation and calibration methodology using Paramics API in several research studies conducted by the Rutgers Intelligent Transportation Systems (RITS) Laboratory. These studies include (1) Simulation of traffic circles and toll plazas, (2) The use of surrogate safety measures in microscopic simulation, (3) Evaluation of various incident management strategies and (4) Dissemination of traffic information via vehicle-to-vehicle communications.

University of Toronto Projects (45 minutes)

Mohamed Wahba (University of Toronto)
Toronto, ON

The mixed-reality driver-simulator from travel behavior modeling.

Traditional driver-simulators lack the representation of road conditions. While microsimulation traffic models are not user friendly. The research group at the University of Toronto developed a mixed-reality driver-simulator environment that combines the powerful virtual road network reality available in Paramics and a real, user friendly driving conditions. This is done using the Application Programmer Interface (API) and through connecting a steering wheel to the Paramics environment, allowing the modeling of driver-behavior under realistic conditions.

Public Transport Planning and Operations

Paramics has a principal focus on auto traffic simulation. When modeling transit systems in details, the research group at U of T has been innovative in using Paramics API. Various applications have been developed that advances the state-of-the-practice of transit service microsimulation.

Using Micro-Simulation Techniques for Bid Evaluation (45 minutes)

Mark Baker (Delcan Corporation)
Gloucester, ON

As part of the Gateway Project, the BC Ministry of Transportation is sponsoring a large-scale modelling initiative of three major road corridors in the Lower Mainland of British Columbia. This presentation will describe development of the model and how performance measures, based on model output, are being used as a part of an evaluation process that will result in the selection of a qualified team to design, build, finance, operate and maintain the improvements to the road corridors. Our challenge was to define an appropriate set of performance measures for comparing design alternatives that: were meaningful to a broad audience; exhibited technical soundness; and could be generated efficiently using model output.

Validation of a Micro-Simulation Model in a Downtown Traffic Analysis (30 minutes)

Timothy Oketch, Ph.D, P.E. (TSH Associates)
Whitby, ON

This paper reviews the calibration and validation of micro-simulation model in the analysis of a network of medium size and complexity. The Paramics micro-simulation model was used to model traffic operations a large area of the City of Oshawa, including the downtown core. The analyzed area consisted of a network of collector and arterial roads with over 40 signalized intersections. The Paramics model applies a dynamic assignment procedure in which movements of vehicles through the network are governed by origin-destination matrices on the basis of various assignment techniques. The calibration efforts therefore included estimation of representative origin-destination matrices for the network, selection of appropriate assignment method and comparison of modeled and observed traffic volumes at the screen line, roadway segment and intersection levels using a modified Chi-Squared statistic test. The model validation was undertaken by comparison observed and modeled travel time along various routes in the network. The analysis shows that application a systematic approach that includes the above steps can result in a well calibrated and validated model that provides reliable results in practical applications. However differences in measures of effectiveness can not be explained wholly by variations between observed and modeled volumes.

Corridor Management Plan Demonstration in California (30 minutes)

Jeff Ban (California Center for Innovative Transportation)
Berkeley, CA

A successful Corridor Management Plan can be an important part of developing comprehensive transportation system management strategies for an entire region. Corridor management planning aims to improve mobility by incorporating detailed performance measurement and state-of-the-art operational analysis into traditional transportation planning processes for congested urban corridors. The Corridor Management Plan Demonstration (CMPD) project stems from Caltrans recognizing the importance of promoting systematic management strategies that optimize the current California freeway corridor system. Corridor System Management Plans (CSMP) are now a requirement in California following the passage of the Proposition 1B Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act in the November 2006 election.

This project demonstrates new methods of evaluating different investment strategies using PeMS, dynamic traffic network modeling, and microscopic traffic simulation techniques. Three corridors, including SR-41 in Fresno, I-880 in Bay Area, and I-5 in Orange County, were selected for concept demonstration and the template development. In this talk, current progress and some results of the three simulation studies will be presented.

New Meadowlands Stadium Development (30 minutes)

Sumeet Kishnani (Langan Engineering and Environmental Services)
New York, NY

This presentation details the analysis of major event scenarios at Giants Stadium using Paramics. Models were developed to determine operational characteristics over 4-hour ingress and egress periods preceding and following an NFL game. Existing conditions models were calibrated to a variety of available data including quantitative measures, time-lapse photography and video recordings.

Future conditions analyses were based on the development of a new, larger Stadium to replace the existing Giants Stadium, both with and without an adjacent 2 million square foot independent development. Unique measures of effectiveness were developed to quantify operations. These measures were used to address impacts the proposed development would have on traffic patterns on football game days.

The adjacent developer authorized an independent Paramics model, so this may be the first time parallel models were used for the same study area. The results were remarkably similar even though the models were built differently, enhancing Paramics' credibility in the views of everyone involved.