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16. Abstract  <p>Society's increasing dependence on software, technological products, services and systems has been mushrooming far beyond expectations of only a few years ago. The major stimulant for this has been the explosion of the web-based technologies. It is now widely recognized that technology is the "glue" binding together communications, electronics, multi-media, and many other hi-technology products and services, and that it is, perhaps, the largest and most pervasive of global industries. The accelerated growth in this industry has created tremendous opportunities. But it has also presented a number of very tough challenges to the participants - for example, to ensure the supply of adequately developed human resources, to cope with "speed-of-light" technology changes, and to support increasingly rapid product release rates.</p> <p>This on-going project is designed to fill the gap by addressing the needs of transportation agencies and organizations for supplemental job training to transportation professionals. The educational infrastructure is critical to the continuous professional development of today's workforce and universities must take the lead in training, upgrading, and retraining workers to support economic growth and retain jobs for the domestic workforce. Companies are continuously driven to employ the latest technologies in their products and in the development of their products. The tremendous rate of change in this sector is placing enormous pressure on organizations, and on their workers, to keep abreast of the changes in order to remain competitive. This is the final activity report for the 3D Traffic Simulation Professional Development Seminars reflects the outcome of the project during fiscal year 2005.</p>					
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# **3-D Traffic Simulation Professional Development Seminars**

**“In-Vision It” Seminar/Workshop Series # 1  
VISSIM Introduction Training Workshop  
VISSIM/VISUM Demonstration for METRO**

*2005 Final Activity Report*

Sharon Adams Boxill

SWUTC/06/167652-1

The Center for Transportation Training and Research  
**Texas Southern University**  
3100 Cleburne Avenue  
Houston, Texas 77004

April 2006



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## ABSTRACT

Society's increasing dependence on software, technological products, services and systems has been mushrooming far beyond expectations of only a few years ago. The major stimulant for this has been the explosion of the web-based technologies. It is now widely recognized that technology is the "glue" binding together communications, electronics, multi-media, and many other hi-technology products and services, and that it is, perhaps, the largest and most pervasive of global industries. The accelerated growth in this industry has created tremendous opportunities. But it has also presented a number of very tough challenges to the participants - for example, to ensure the supply of adequately developed human resources, to cope with "speed-of-light" technology changes, and to support increasingly rapid product release rates.

This on-going project is designed to fill the gap by addressing the needs of transportation agencies and organizations for supplemental job training to transportation professionals. The educational infrastructure is critical to the continuous professional development of today's workforce and universities must take the lead in training, upgrading, and retraining workers to support economic growth and retain jobs for the domestic workforce. Companies are continuously driven to employ the latest technologies in their products and in the development of their products. The tremendous rate of change in this sector is placing enormous pressure on organizations, and on their workers, to keep abreast of the changes in order to remain competitive. This is the final activity report for the 3D Traffic Simulation Professional Development Seminars reflects the outcome of the project during fiscal year 2005.



## **EXECUTIVE SUMMARY**

Increasing global competition, and widespread use of computer related technologies, suggests that the future will bring new challenges for employers and workers. In order to respond to the ever increasing gap between workers and the skills now needed for employers to maintain high performance workplaces, organizations must make an additional investment in the skills of its current workers.

Within the transportation industry a metamorphosis is also taking place with the advent of new software, methodologies and presentation of proposed and final projects to decision makers, stakeholders and the public. In response to this new software the 3D Traffic Simulation Demonstration Lab at Texas Southern University began a project to offer professional development seminars and learning workshops. Through a series of “In-Vision It” workshop and seminars offers the project hopes to expand the knowledge of transportation planning through the use of visualization.

The results presented in this report reflect the conception, planning and presentation of the first workshop/seminar in a series entitled “In-Vision It” that will be conducted by the 3D Traffic Simulation Demonstration Laboratory at Texas Southern University’s Center for Transportation Training and Research.



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## INTRODUCTION

Society's increasing dependence on software, technological products, services and systems has been mushrooming far beyond expectations of only a few years ago. The major stimulant for this has been the explosion of the web-based technologies. It is now widely recognized that technology is the "glue" binding together communications, electronics, multi-media, and many other hi-technology products and services, and that it is, perhaps, the largest and most pervasive of global industries. The accelerated growth in this industry has created tremendous opportunities. But it has also presented a number of very tough challenges to the participants - for example, to ensure the supply of adequately developed human resources, to cope with "speed-of-light" technology changes, and to support increasingly rapid product release rates.

A virtual revolution in visualization has contributed to dramatic advances in fields such as chemistry, nanotechnology, genomics and systems biology, medicine, and earth and space science. New tools to create stunning visual images have given frontier researchers the perspective needed to set new research directions. Interactive, computer based animations and visualizations have also equipped students and teachers to see and understand complex science concepts (Lisensky and Mahaffy, 2005).

The challenge for transportation agencies and organizations is to meet the demands of an ever changing and evolving skills set with workers who possess these skills. The complexity and intensity of these demands can be met through public and private sector institutions and organizations who's direct and indirect products provide the widest possible benefits to the public transit industry. Most people working in the transportation industry have learned their "trade" on the job. The new reality is that industry can no longer afford to educate its staff this way, but the need for continuous learning has increased.

This project is designed to fill the gap by addressing the needs of transportation agencies and organizations for supplemental job training to transportation professionals. The educational infrastructure is critical to the continuous professional development of today's workforce and universities must take the lead in training, upgrading, and retraining workers to support economic growth and retain jobs for the domestic workforce. Companies are continuously driven to employ the latest technologies in their products and in the development of their products. The tremendous rate of change in this sector is placing enormous pressure on organizations, and on their workers, to keep abreast of the changes in order to remain competitive.

### 1.1.1 Project Design and Objective

The programmatic activities and strategies for their implementation will be to offer transportation related training courses to industry professionals and students wishing to augment their education. A seminar and workshop series entitled “In-Vision It” has been implemented to offer high impact training sessions (Fig. 1).

**Figure 1. “In-Vision It!” Seminar and Workshop Series Brochure Information**

<b>In-Vision It! Seminars</b>
<ul style="list-style-type: none"><li>➤ High impact introduction to the 3-D traffic simulation skill set</li><li>➤ Stimulates thinking, initiates change</li><li>➤ Often results in numerous epiphanies</li><li>➤ For planners, engineers and other interested parties</li></ul>
<b>In-Vision It! Master Workshops</b>
<ul style="list-style-type: none"><li>➤ Customized follow-up from In-Vision It! Seminars</li><li>➤ Enables detailed focus on critical projects</li><li>➤ Turns participants into high value experts</li></ul>

The overall objective of this project is to establish a framework, including skills and processes, for the creation and delivery of improved planning visualization software capability to enable increased probability of success of planning and capital improvements projects.

### 1.1.2 VISSIM Training Workshop Background

Apart from the exciting developments in intelligent transportation systems (ITS) and informed traffic flows, a quiet yet radical transformation is also taking place in the way roads are planned, designed, and built. Movie-type ‘virtual reality’ is now routinely used to demonstrate traffic patterns to clients and the public. Engineers can see their projects as full three dimensional models with ‘fly through’ (Greeman, 2004).

VISSIM is a microscopic simulation model and a component of the PTV Vision® suite. It is the most powerful tool available for simulating multi-modal traffic flows, including cars, trucks, buses, heavy rail, trams, LRT, bicyclists and pedestrians. Its flexible network structure provides the user with the confidence to know they can model any type of geometric configuration or unique operational/driver behavior encountered within the transportation system.

What are typical VISSIM applications? VISSIM is used for a host of traffic and transit (public transport) simulation needs (PTV America, 2006). Common applications include:

- ▶Freeway and arterial corridor studies
- ▶Sub area planning studies
- ▶Evacuation planning
- ▶Freeway management strategy development
- ▶Traffic calming schemes
- ▶Light rail/bus rapid transit studies
- ▶Transit signal priority evaluations
- ▶Transit center/bus mall designs
- ▶Railroad grade crossing analyses
- ▶Toll plaza evaluations
- ▶Environmental impact studies
- ▶Intelligent Transportation Systems (ITS) assessments
- ▶Current and future traffic management schemes
- ▶Airport studies for landside and airside traffic

VISSIM was chosen as the software for the initial 3D Traffic Simulation Demonstration workshop because it is one of the software at the forefront of this new trend toward project visualization and presentation and offers a broad range of traffic related applications.

VISSIM is based on decades of intensive research at various academic institutions. Core algorithms are well documented. Open interfaces provide compatibility with external software. Its link-connector topology allows the highest versatility combined with vehicle movements in a detailed 1/10s resolution. Being on the market since 1992 VISSIM is setting the standard for simulation software; intensive research and a large user community worldwide guarantee VISSIM to be the leading edge software of its kind. Furthermore, the PTV Vision suite has been the first of its kind to integrate microscopic simulation with strategic transport planning/travel demand modeling (PTV America, 2006).



## WORK SHOP FACILITATORS BIOGRAPHY'S

### **Robert M. Shull, P.E., Vice President PTV America, Inc.**

Robert Shull is Vice President and Principal Engineer for PTV America, Inc. He manages the company's Vashon, Washington office. He is responsible for PTV's travel demand modeling services using TMODEL and VISUM and is actively involved in software development, training, and support.

Shull has more than thirty years of experience in transportation modeling and traffic engineering and has developed an excellent reputation within the transportation profession. He has worked throughout North America as well as internationally. Shull received a Bachelor of Science degree in Civil Engineering from Oregon State University (OSU). Prior to merging with PTV America, Inc. in 2004, Shull founded TMODEL Corporation in 1991. He has worked for the public sector as well as a number of firms in a variety of positions.

### **Kiel Ova, Project Manager PTV America, Inc.**

Kiel Ova is a Project Manager at PTV America, Inc. and is located at the Wilmington, Delaware office. His area of focus includes multi-modal transportation studies, subarea simulation model development and analyses using interfaces to travel demand forecast models, dynamic traffic assignment, light rail transit and bus signal priority studies, and PTV Vision training. He is also the project manager for PTV's training events in North America.

Prior to working at PTV, Ova was an Associate Research Fellow with the Upper Great Plains Transportation Institute in Fargo, North Dakota. There his research emphasized transportation and economic issues pertaining to small-to-medium sized metropolitan areas. Specific focus areas included traffic simulation modeling, dynamic assignment, traffic and transit operations, and video detection systems. Ova received his Masters of Science and Bachelors degrees in Civil Engineering from North Dakota State University.



## TRAINING AND DEMONSTRATION AGENDAS

PTV America, Inc. provided a customized PTV Vision training. The 2-day customized VISSIM Introduction and V3D Modeler was held on May 24-25, 2005 on the campus of Texas Southern University and hosted by the 3D Traffic Simulation Demonstration Lab in the Center for Transportation Training and Research. In addition a VISSIM/VISUM Demonstration was held on May 26, 2005 at the request of the Metropolitan Transit Authority of Harris County (METRO). The following are the agendas for the 2-day VISSIM Introduction training workshop and the VISSIM/VISUM Demonstration.



### Texas Southern University Custom Training PTV VISION® SUITE VISSIM Intro

#### Day 1 Agenda

Introduction/PTV Vision® Overview .....	8:30am
VISSIM Lesson 1-1: Getting Started.....	9:15 am
VISSIM Lesson 1-2: Backgrounds.....	9:45 am
Break.....	10:15 am
VISSIM Lesson 1-3: Links and Connectors.....	10:30 am
VISSIM Lesson 1-4: Speeds, Traffic Compositions, and Volumes .....	10:45 am
VISSIM Lesson 1-5: Vehicle Routing Decisions.....	11:00 am
Lunch .....	12:00 pm
VISSIM Lesson 1-6: Speed Changes and Reduction Zones .....	12:45 pm
VISSIM Lesson 1-7: Signalized Intersections (Fixed-Time).....	1:30 pm
VISSIM Lesson 1-8: Priority Rules.....	2:00 pm
Break.....	2:30 pm
VISSIM Lesson 2-1: Graphics .....	2:45 pm
VISSIM Lesson 2-2: Stop Signs and RTOR .....	3:00 pm
VISSIM Lesson 2-3: Virtual NEMA Controller .....	3:30 pm
VISSIM Lesson 2-4: Detectors and Protected/Permissive Phasing .....	4:15 pm
Discussion.....	4:45 pm
End.....	5:00 pm



## Day 2 Agenda

VISSIM Lesson 2-5: Output.....	8:30 am
VISSIM Lesson 3-1: Transit Application.....	9:30 am
Break.....	10:30 am
VISSIM Lesson 4-1: Freeway Modeling.....	10:45 am
Lunch.....	12:00 pm
VISSIM Lesson 4-2: Driver Behavior Calibration.....	1:00 pm
VISSIM Lesson 5-1: Synchro/TEAPAC Import.....	1:30 pm
VISSIM Lesson 5-2: Read Additionally.....	2:00 pm
VISSIM Lesson 4-3: 2D Animation.....	2:15 pm
Break.....	2:45 pm
VISSIM Lesson 4-4: 3D Animation and AVI Files.....	3:00 pm
VISSIM Advanced: VISSIM 3D Modeler.....	3:45 pm
Discussion.....	4:45 pm
End.....	5:00 pm

# **VISSIM & VISUM Demonstration – Houston TX**

**May 25, 2005**

**Introduction ..... 9:00 am**

- \* Overview: PTV America, PTV Vision Software Suite
- \* Partnerships: ESRI & NAVTEQ
- \* Where Are We Going

**VISUM Regional Network Model ..... 9:20 am**

- \* VISUM Data Model
- \* Data Entry, Import, Export, Editing
- \* GIS Integration
- \* Demand Model Structure
- \* Demand Analysis

**VISUM Subarea Refinement ..... 10:30 am**

- \* Subarea Network from Regional Model
- \* Intersection Coding and Analysis
- \* Export to VISSIM

**VISSIM Standard Applications ..... 11:00 am**

- \* Synchro Import
- \* Arterial Analysis
- \* Freeway Analysis
- \* 3D Modeling & AVI

**VISSIM Advanced Applications ..... 12:00 pm**

- \* ITS Modeling: Dynamic Message Signs, Variable Speed, DTA
- \* Transit: BRT, LRT, Transit Signal Priority

**Q&A ..... 12:30 pm**





## ATTENDEES

The VISSIM Introduction training workshop and the VISSIM/VISUM Demonstration attendees represented private consulting firms, public transit agencies and institutions of higher education the figures below (Fig. 2 and Fig. 3) show the attendees for the workshop and the demonstration.

Figure 2. VISSIM Introduction Training Workshop Sign-In Sheet

<b>WORKSHOP SIGN-IN SHEET</b>								
<b>Project:</b> PTV America – VISSIM Introduction Training Workshop			<b>Meeting Date:</b> May 23-24, 2005					
<b>Facilitator:</b> Kiel Ova			<b>Place/Room:</b> RJT Computer Lab					
Name	Title	Company	Phone	Fax	E-Mail			
Dr. Fengxiang Qiao	Associate Professor Research Assoc.	Texas Southern Univ.	[REDACTED]					
Hameed Merchant	Manager	METRO						
Mark Ingram	Sr. Project Mgr.	Turner Collier and Braden						
Andy Mullins	Supervising Transportation Planner	Parsons Brinckerhoff						
Nick Harris	Sr. Traffic Eng.	METRO						
Praveen Pasumarthy	Transportation Eng.	Wilbur Smith Associates						
P.K. Okere	Transportation Eng.	Wilbur Smith Associates						
Dr. Ali Kamrani	Associate Professor	University of Houston						
Dingxin Cheng	Transportation Eng.	Parsons Brinckerhoff						
Sharon A. Boxill	Research Associate	Texas Southern Univ.						
Zhengnian Song	Student	Texas Southern Univ.						

Figure 3. VISUM & VISSIM Demonstration Sign-In Sheet

<b>DEMONSTRATION SIGN-IN SHEET</b>	
<b>Project:</b> PTV America – Software Suite Demonstration	<b>Meeting Date:</b> May 25, 2005
<b>Facilitator:</b> Robert Shull – Vice President, PTV America, Inc.	<b>Place/Room:</b> COST/ Room 225

<b>Name</b>	<b>Title</b>	<b>Company</b>	<b>Phone</b>	<b>Fax</b>	<b>E-Mail</b>
Dingxin Cheng	Transportation Eng.	Parsons Brinckerhoff			
Zhenzhou Yuan	Professor	Texas Southern Univ.			
Zhengnian Song	Graduate Student	Texas Southern Univ.			
Changqing Zheng	Visiting Professor/China	Texas Southern Univ.			
Lei Yu	Department Chair Transportation Studies	Texas Southern Univ.			
Blain McKenzie	Graduate Student	Texas Southern Univ.			
Hao Liu	Graduate Student	Texas Southern Univ.			
James Sassin	Owner	TransportTex			
Giovanni Puccini	Project Manager	Halliburton			
Maher Lahmer	Assistant Professor	University of Houston			
Homer Randle	Graduate Student	Texas Southern Univ.			
Dr. Fengxiang Qiao	Associate Professor	Texas Southern Univ.			

## LESSONS LEARNED

In order to fully assess the effectiveness of the workshop a post-project meeting was held to discuss lessons learned. The key objectives were to:

- Review project objectives and whether or not objectives/expectations were met.
- Understand what went right and what went wrong during delivery of effort being reviewed.
- Discover lessons learned and internal best practices that can be applied as corrective actions to other planned projects.
- Develop action plans for preventing ‘what went wrong’ from happening.
- Develop action plans for ‘what went right’ as best practices.

To meet the objectives of the post-project meeting data about the attendees was reviewed. We needed to know who our attendees were, what information they needed and expected to get and why they chose our workshop.

- Techniques for Data Collection

We used two methods, a training course evaluation and personal conversations, to solicit attendee feedback.

- Lessons Learned
  1. Training course evaluation forms return the most data from attendees efficiently.
    - Evaluation forms should be short, fewer than 10 questions.
    - A mixture of specific and open-ended questions works best.
  2. Individual conversations with attendees pinpointed specific needs of attendees and allowed project team members to probe relevant topics.



## REFERENCES

Greeman, Adrian. Asset Management Software: Planning, Design, Construction and Management of Road Assets. Software for Road Infrastructure a World Highways & ITS International Supplement. Route One Publishing Ltd., UK 2004.

Lisensky, George C. and Peter Mahaffy. Seeing and Understanding: Guiding Visualization Research in Science & Education Conference Brochure. Queen's College, Oxford, UK 2005.

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## **APPENDICES**



**APPENDIX 1**

**3D TRAFFIC SIMULATION DEMONSTRATION LAB BROCHURE**

### The "In-Vision It!" Seminar and Workshop Series

> **In-Vision It! Seminars:**

- High-impact introduction to the 3-D traffic simulation method
- Stimulates thinking, initiates change
- Often results in numerous epiphanies!
- For planners, engineers, and other interested parties

> **In-Vision It! Master Workshops**

- Customized follow-up from In-Vision It! Seminars
- Enables detailed focus on critical projects
- Turns practitioners into high-value experts

> **In-Vision It! Workshops Overview:**

Overall Objective

To establish a framework, including skills and processes, for the creation and delivery of improved software capability to enable increased probability of success in planning.

Participants complete the Workshop equipped with:

1. A newly constructed, highly compelling demonstration of 3-D software, targeted specifically for a typical key scenario.
2. The ability to apply the method to develop equally targeted and compelling demonstrations for other scenarios, products, and situations.

Summary

The In-Vision It! methodology delivers targeted "what's in it for me?" benefits right up front, followed by rapid, targeted proof, and then further, more detailed exploration in accord with the audience's level and depth of interest.



**Point of Contact:**

**For more information regarding the lab or training opportunities, please contact:**

**Sharon A. Boxill  
Principal Investigator  
Center for Transportation Training and Research**

**Ph/713-313-7284  
Fax/713-313-1923  
Email/boxill\_sa@tsu.edu**



## 3-D Traffic Simulation

*Demonstration Laboratory*



*A Division of the  
Center for Transportation Training and Research  
Texas Southern University*

### 3-D TRAFFIC SIMULATION OVERVIEW

Imagine the powerful impact of showing a video clip that relays your project's vision to interested parties. Traffic Simulation Models with a 3-D visualization component can create state-of-the-art 3D traffic animations to make your project "Vision" come to life. You can use 3D to combine your plans, sections, profiles, and actual traffic operations into one complete presentation package. With this technology, you now have the ability to see your final project vision and the proposed traffic operations inclusive with pedestrians, bicyclists, and buildings. You can:

- Provide convincing presentations to technical experts, decision makers, and the general public
- Improve public involvement & understanding
- Overcome public opposition due to traffic concerns
- Visually show capacity issues instead of using the level of service (los) tables
- Show benefits of the proposed alternatives
- Show future impacts of the "Do Nothing" scenario
- Assist your planners and designers in gaining project understanding

Three-dimensional simulation provides a powerful presentation of the network wide traffic system. You can incorporate pictometry, aerials, design drawings, pedestrians & bicyclists, buildings, signals, and other static objects into the simulation to give a realistic feel to the models. This is an extremely valuable engineering tool for both analysis and public presentation. Potential project opposition due to traffic concerns is significantly reduced when the stakeholders and general public can view a real-time, animated video presentation of the traffic flow for the existing system and the proposed alternatives. For many engineering disciplines, simulation has become an indispensable instrument for optimizing complex technical systems.

### ABOUT THE LAB

#### Mission:

The 3-D Traffic Simulation Demonstration Lab (3DTSDDL) at Texas Southern University (TSU) will conduct workshops and seminars to introduce and explore the prospect of bridging the gap between planning and visualization. The lab will offer a series of planned activities coordinated with software vendors to demonstrate new advances in modeling and visualization in a 3-D real time environment.

#### Objectives:

To establish a framework, including skills and processes, for the demonstration and delivery of traffic simulation visualization improved software capabilities thereby enabling increased probability of success in planning.

To produce Transportation Studies graduates with expertise in the following areas:

- Creation of 3D state-of-the-art traffic animations
- Ability to compare junctions with regard of design alternatives (unsignalized and signal controlled, grade separate interchanges).
- Design, test and evaluation of vehicle-actuated signal control.
- Wide range of highly specialized traffic engineering tasks, such as capacity analysis of toll plaza or border control facilities.



- Visualization of vehicle movements within the network in 2D and 3D animation
- Show grade changes in roadway
- Modeling of bridges
- Creation of simple static 3D objects and import of aerials, pictometry, plans, and renderings
- Vehicle tracking



### INTERGRAPH REGISTERED RESEARCH LABORATORY (RRL)



As an Intergraph Registered Research Laboratory (RRL), 3DTSDDL at TSU joins the ranks of qualified universities worldwide. This program provides students, educators and researchers with the leading-edge technology and development support needed for applied research activities. With the Intergraph endorsement our researchers and graduate research assistants have the freedom to explore new possibilities and the power to impact the future of GIS.



## **APPENDIX 2**

### **WORKSHOP BROCHURE AND DEMONSTRATION INVITATION**

**VISSIM INTRODUCTION TRAINING WORKSHOP  
REGISTRATION FORM**

Name: \_\_\_\_\_

Agency/Company: \_\_\_\_\_

E-mail: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip Code: \_\_\_\_\_

Phone: (\_\_\_\_) \_\_\_\_\_ Fax: (\_\_\_\_) \_\_\_\_\_

**PAYMENT INFORMATION *Enrollment Fee: \$750 per person***  
(Payment must be recieved before workshop):

Check enclosed payable to: **Texas Southern  
University**

Check # \_\_\_\_\_  
Check amt. \_\_\_\_\_

Charge to:

MasterCard       Visa       AmEx

Card number \_\_\_\_\_

Expiration Date \_\_\_\_\_

Signature \_\_\_\_\_

Mail registration form to:  
**Center for Transportation Training and Research  
3100 Cleburne Avenue  
Houston, TX 77004**  
or

Fax to: (713) 313-1923  
E-mail: boxill\_sa@tsu.edu

An electronic confirmation will be provided upon  
receipt of registration.

For further infromation call: **Sharon A. Boxill** at  
713) 313-7284

3D Traffic Simulation Demonstration Lab  
Center for Transportation Training and Research  
**TEXAS SOUTHERN UNIVERSITY**  
3100 Cleburne Avenue  
Houston, Tx 77004



**VISSIM  
INTRODUCTION  
TRAINING  
WORKSHOP**



**"IN-VISION IT" WORKSHOP SERIES**

May 23 - 24, 2005  
at  
**Texas Southern University**  
3100 Cleburne Avenue  
Houston, Texas

PRESENTED BY THE  
**3D TRAFFIC SIMULATION DEMONSTRATION LAB**  
A DIVISION OF THE  
CENTER FOR TRANSPORTATION TRAINING AND RESEARCH

## WHO SHOULD ATTEND

TRANSPORTATION PLANNERS  
 TRAFFIC ENGINEERS  
 TECHNICAL EXPERTS  
 SYSTEMS ANALYSTS  
 ENVIRONMENTAL PLANNERS AND ENGINEERS  
 GIS ANALYSTS

### COURSE DESCRIPTION

VISSIM is a microscopic simulation model and a component of the ptv vision® suite. It is the most powerful tool available for simulating multi-modal traffic flows, including cars, trucks, buses, heavy rail, trams, LRT, bicyclists and pedestrians. Its flexible network structure provides the user with the confidence to know they can model any type of geometric configuration or unique operational/driver behavior encountered within the transportation system.

VISSIM is used for a host of traffic and transit (public transport) simulation needs.

These include:

- Corridor studies
- Subarea planning studies
- Freeway management designs
- Light rail/bus rapid transit studies
- Transit signal priority evaluations
- Transit center/bus mall designs
- Railroad crossing analyses
- Toll plaza evaluations
- Environmental impact studies
- Intelligent Transportation Systems assessments
- Airport studies for landside and airside traffic

This training provides professionals with valuable insight into addressing software use questions, and applying VISSIM to real world problems.

### DAY 1 AGENDA

Introductions/ptv Vision® Overview.....	8:30am
VISSIM Lesson 1-1	
Getting Started-VISSIM Overview.....	9:15am
VISSIM Lesson 1-2	
Backgrounds.....	9:45am
Break.....	10:15am
VISSIM Lesson 1-3	
Links & Connectors.....	10:30am
VISSIM Lesson 1-4	
Speeds, Traffic Compositions, and Volumes.....	10:45am
VISSIM Lesson 1-5	
Vehicle Routing Decisions.....	11:00am
Lunch.....	12:00pm
VISSIM Lesson 1-6	
Speed Changes and Reduction Zones.....	12:45pm
VISSIM Lesson 1-7	
Signalized Intersections (Fixed Time).....	1:30pm
VISSIM Lesson 1-8	
Priority Rules.....	2:00pm
Break.....	2:30pm
VISSIM Lesson 2-1	
Graphics.....	2:45pm
VISSIM Lesson 2-2	
Stop Signs and RTOR.....	3:00pm
VISSIM Lesson 2-3	
Virtual NEMA Controller.....	3:30pm
VISSIM Lesson 2-4	
Detectors and Protected/Permissive Phasing.....	4:15pm
Discussion.....	4:45pm
End.....	5:00pm

### DAY 2 AGENDA

VISSIM Lesson 2-5	
Output.....	8:30 am
VISSIM Lesson 3-1	
Transit Application.....	9:30 am
Break.....	10:30 am
VISSIM Lesson 4-1	
Freeway Modeling.....	10:45 am
Lunch.....	12:00 pm
VISSIM Lesson 4-2	
Driver Behavior Calibration.....	1:00 pm
VISSIM Lesson 5-1	
Synchro/TEAPAC Import.....	1:30 pm
VISSIM Lesson 5-2	
Read Additionally.....	2:00 pm
VISSIM Lesson 4-3	
2D Animation.....	2:15 pm
Break.....	2:45 pm
VISSIM Lesson 4-4	
3D Animation & AVI Files.....	3:00 pm
VISSIM Advanced	
3D Modeler.....	3:45 pm
Discussion.....	4:45 pm
End.....	5:00 pm

**The 3D Traffic Simulation  
Demonstration Laboratory**

*A Division of the  
Center for Transportation Training and Research*

*Cordially invites you to the  
PTV America Software Suite Demonstration  
at*

***Texas Southern University***

*College of Science and Technology  
Rm. 225*

***May 25, 2005***

*to view an exciting software demonstration  
of*

*VISUM Regional Network Model,  
VISUM Subarea Refinement,  
VISSIM Standard Applications and,  
VISSIM Advanced Applications.*

*The demonstration (free to all who RSVP) will give an overview  
of the PTV Vision Software Suite and of PTV America, outlining its  
partnerships with ESRI and Navteq and their developments and  
innovations in optimizing transport systems.  
It will be shown from 9 A.M. to 12:30P.M.*

*RSVP  
by  
Email  
at  
[boxill\\_sa@tsu.edu](mailto:boxill_sa@tsu.edu)  
or  
call  
Sharon A. Boxill  
at  
713-313-7284*

**APPENDIX 3**  
**WORKSHOP EVALUATION**



**Training Course Evaluation**

May, 2005 Texas Southern University

**COURSE: VISSIM Intro & V3D Modeler**

**CONTENT**

(5= excellent, 1=poor)

Please give an overall rating for the course(s)?

5 4 3 2 1 5 4 3 2 1

Please rank the effectiveness of the instructor(s)?

5 4 3 2 1 5 4 3 2 1

Course content?

5 4 3 2 1 5 4 3 2 1

Course materials?

5 4 3 2 1 5 4 3 2 1

How did the course(s) compare to other CEU courses you have attended?

Above Average    Average    Below Average    N/A

Which topics were most helpful? \_\_\_\_\_

Which topics were of least interest? \_\_\_\_\_

What topics were not covered that you expected to be included in the course?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**FACILITY**

Please provide a ranking for the meeting room:

5 4 3 2 1                      5 4 3 2 1

Please provide a ranking for the computers:

5 4 3 2 1                      5 4 3 2 1

Please provide a ranking for lunch and refreshments:

5 4 3 2 1                      5 4 3 2 1

Suggestions: \_\_\_\_\_

\_\_\_\_\_

**OTHER**

Will you attend a PTV America training event again?

Yes            No

Will you recommend this course to your colleagues?

Yes            No

How did you learn about the event?

- Email Notice
- Web Site
- Recommendation
- Other: \_\_\_\_\_

Please rate your understanding of this PTV Vision product **before** the training:

5 4 3 2 1                      5 4 3 2 1

Please rate your understanding of this PTV Vision product **after** the training:

5 4 3 2 1                      5 4 3 2 1

**ADDITIONAL COMMENTS**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**APPENDIX 4**

**PTV AMERICA FOLLOW-UP COORESPONDENCE**



June 8, 2005

Sharon A. Boxill  
Center for Transportation Training and Research  
Texas Southern University  
3100 Cleburne Ave  
Houston, TX 77004

Dear Ms. Boxill:

Thank you for hosting and attending the VISSIM Intro course in Houston last month. I hope you found the course informative and will be able to apply VISSIM to a variety of transportation projects that you may not have envisioned previously. The enclosed certificate will serve as proof of attendance.

At PTV America, our goal is to be the leading provider of integrated transportation planning and simulation software. You will continue to see our services grow in the coming years as we expand our products and services to address the needs of the transportation profession.

Do not hesitate to contact us if you should need any assistance with the PTV Vision software. The best method for technical support is at [hotline@ptvamerica.com](mailto:hotline@ptvamerica.com), but you may also contact us by phone or email.

If you have any questions regarding your training, software, or including PTV America on your next project, don't hesitate to contact us. We hope you enjoyed your training experience and look forward to providing you quality support in the future.

Sincerely,

Kiel Ova  
Project Manager

KRO:vmc  
Enclosures