

Field Operational Test Planning

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IVBSS 2008 Public Meeting

April 10-11, 2008

Eagle Crest Resort & Conference Center
Ypsilanti, MI

Preliminary FOT Plan



- A preliminary FOT plan is being developed, and will be made public
- The plan is based on past FOT experience, power analyses and budget/schedule
- Emphasis will be on evaluating:
 - Safety benefits
 - Driver acceptance

LV FOT Location



- FOT will incorporate a sample of licensed drivers from SE Michigan
 - Unlimited use in continental U.S.
- Three age groups (min of 2 years driving)
 - 20s, 40s, 60s
- Balanced for gender





LV FOT Driver Selection

- Participants will use the FOT vehicle in place of their regular car/light truck
 - Only the participant, trained to use the vehicle, will be allowed to drive
- A minimum annual mileage requirement
 - Estimated annual mileage requirement varies with age and gender
 - Based on the National Personal Transportation Survey (NPTS)

LV Extended Pilot and Preliminary FOT Design



	Light Vehicle
Extended Pilot FOT (No Baseline)	12 participants 4 research vehicles 3 week exposures
FOT (Baseline and Treatment)	108 participants 16 vehicles* 6 week exposures

* There will also be 1 backup vehicle and 1 engineering vehicle



LV FOT Scope

- Testing will occur over approximately a 12 month period
- Assuming a 90+% efficiency that UMTRI has been able to achieve in past FOTs
- The volume of data would represent 648 weeks (approximately 12.5 years) of driving



LV FOT Data

- Subjective data
 - Questionnaires, focus groups, debriefings
- Objective data
 - Multi-CPU DAS, turn key and unobtrusive
 - Full-time dataset describing:
 - Vehicle performance
 - Driver performance
 - Vehicle location
 - Driving environment



HT FOT Location

- FOT will be run out of the Con-Way's Romulus terminal
 - Includes Michigan's lower peninsula, northern Ohio/Indiana and Chicago
 - Local P&D is 41% limited access highway
 - Line-haul is 96% limited access highway
 - Estimated total mileage exposure for FOT fleet is 82% limited access, 18% surface roads

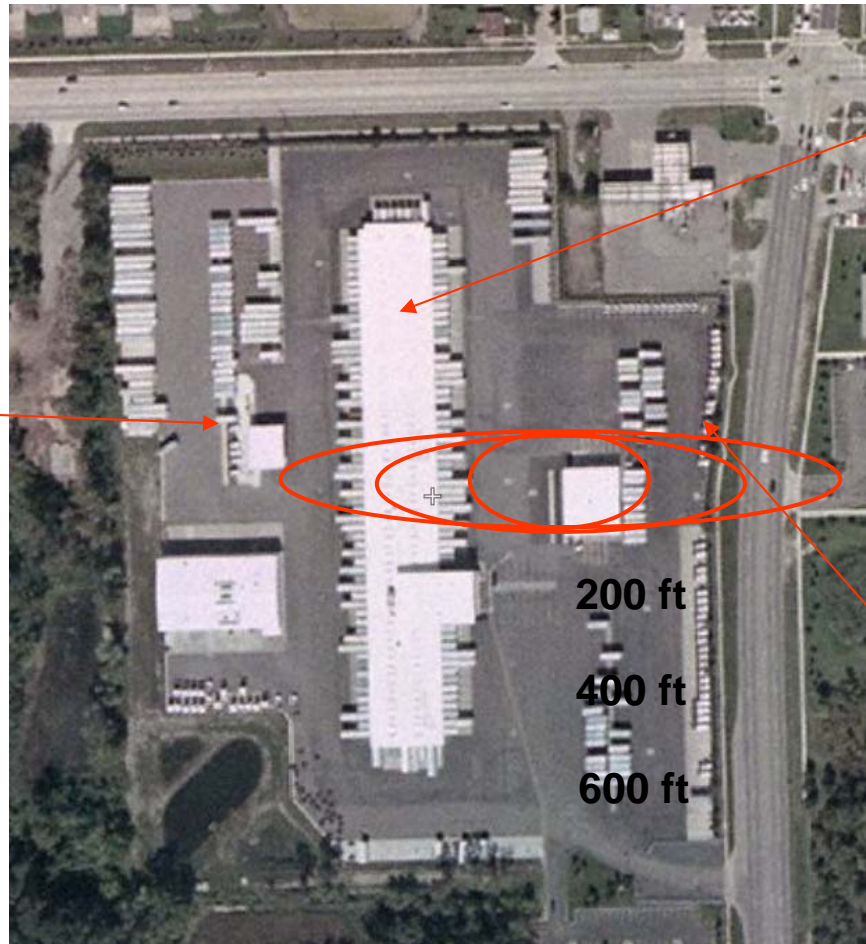
Con-way Freight Romulus Terminal



Maintenance Facility

Re-distribution Center

Tractor Parking



HT Driver Demographics



- Age groups (min of 2 years CDL driving)
 - Drivers range in age from 25 – 65
 - A question whether to include driver age as a variable
 - Suggested there only be two levels
- Gender is all male

HT FOT Driver Selection



- Drivers will use the FOT vehicle in place of their tractor, on a daily basis
 - Drivers bid on routes every year
 - The routes typically run 5 – 6 days a week
 - The fleet runs two shifts per day (routes can change as a function of shift)
 - Approximately 24 to 26 drivers will have to be trained

HT Extended Pilot and Preliminary FOT Design



	Heavy Truck
Extended Pilot FOT (No Baseline)	Multiple drivers (approx. 8) 1 tractor 2 - 3 month exposure
FOT (Baseline and Treatment)	20 – 26 drivers 10 tractors 10 month exposure in fleet

* There will also be 1 backup/engineering vehicle



HT FOT Scope

- Testing will occur over approximately a 10 month period
 - 3 month baseline, 7 month treatment
- The volume of data would represent approximate 8 - 16 years of HT driving
- A network and server at the HT fleet distribution center



HT FOT Data

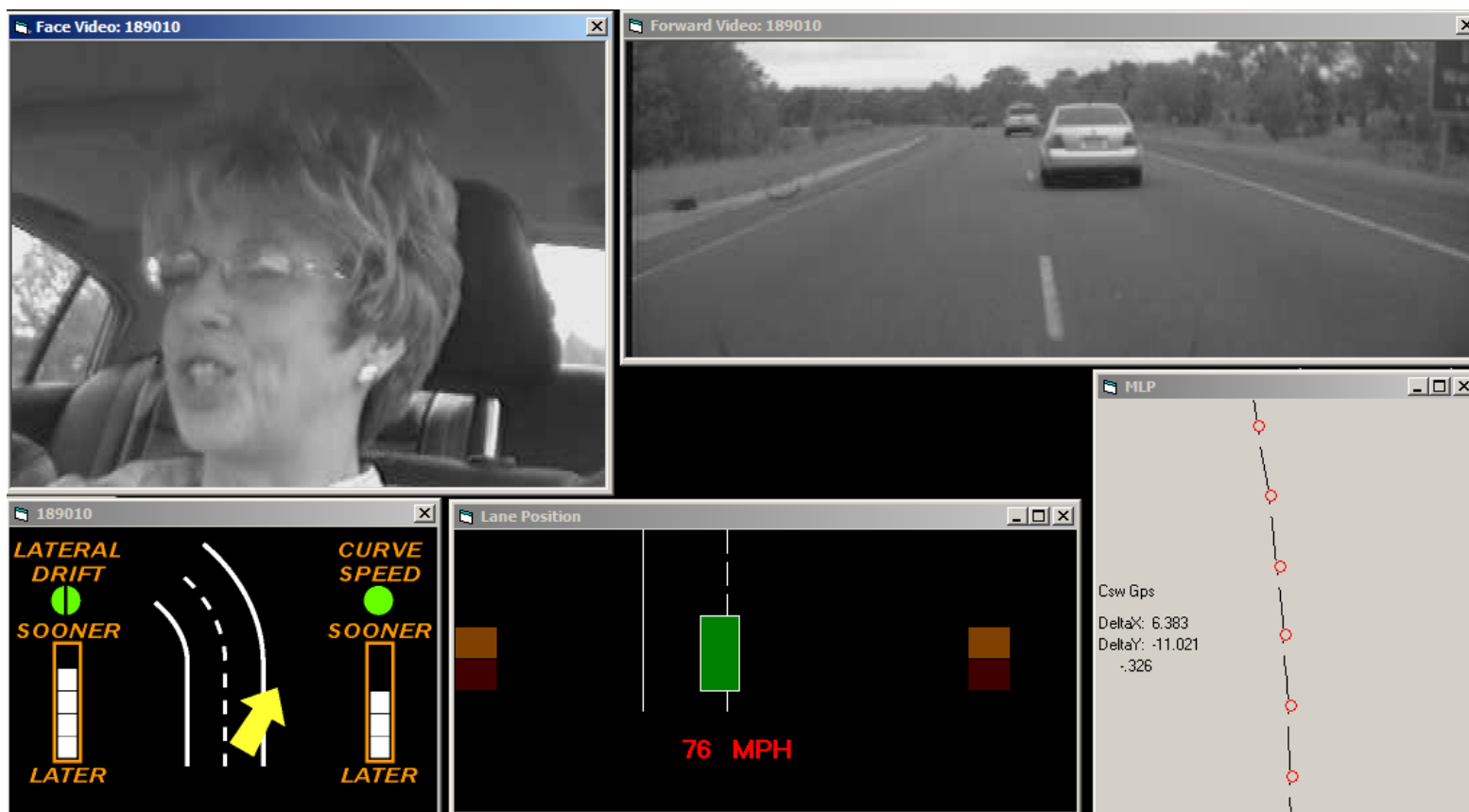
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Data visualization

The RDCW Viewer

Face and forward video



DVI presentation

Lane-departure situation
Speed, lane position, brake and turn signals

CSW situation
Path and predicted path



Data analysis ERD Database Browser—RDCW

Graphics and analysis software with direct access to database

