Presidential Address—Winter 2009

My heartfelt wish for each of you is a blessed and happy 2009. As I prepare for my new role as Past President of ADED, I can’t help but reflect on the last year. I believe 2008 will go down in ADED history as a year of challenge coupled with great accomplishment. Those challenges were met because of the extraordinary efforts of your board, executive director, conference team, committee members, sponsors, exhibitors, sister organizations and you the membership. Throughout the year I called on many of you to assist us with our transition. I thank each of you for all you did to support us as we moved our executive office from Raleigh to Hickory, beginning with that temporary move last February and ending in a new location for us to call home.

The board members spent hours each month on conference calls which generated great discussion about the right person for the executive director job, the hiring process, the infrastructure, and the future. You elected a spirited and energetic 2008 board and from our transition meeting in December I can assure you the same holds true of our 2009 board.

Committee chairs and members made great strides in rewriting our best practices, assuring our certification process continued flawlessly, updating public relations materials, publishing our News Brake and putting on a conference with new and exciting events and educational opportunities. The executive directors, board members, and membership of our sister organizations, NMEDA and ADA continued to offer wise words of encouragement and financial support for our educational endeavors. Other sister organization representatives including AOTA, AAA, NHTSA, DSAA and others engaged us in meaningful dialogue about the field of driver rehabilitation and how we can continue to serve those who benefit greatly from our services.

Individual members of ADED offered kind words, support, and suggestions throughout the year. Yes I am counting my blessings as I end this year of being President but more important I am looking forward to the continued evolution of this one of a kind organization. As I have said many times, ADED has given more to me than I could ever give back. I urge you to be involved, help us move to the future, and support our goal of being the number one organization for education in the field of driver rehabilitation. Your knowledge, support and energy can make it happen.

I look forward to 2009 with great anticipation. I know that Susan Pierce will lead us with great energy and enthusiasm as well as a wealth of knowledge and expertise about the field. Your new Board stands ready to serve!

Be kind to one another

Lori Benner
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Editor's Note

I have mixed feelings about the $17.4 billion in loans to troubled U.S. automakers. Unfortunately, the complexity of the auto industry bailout far exceeds my allowable space in this editor's note. While I don't think it is possible to get out of any financial crisis solely by government bailouts, I do believe the auto industry needs a little help. And by virtue of what we do, this is relevant to every one of us, personally and professionally.

The automotive industry has long been one of the most important sectors in the U.S. economy. According to The Center for Automotive Research, almost 4 percent of U.S. gross domestic product is related to the automobile industry and it represents 10 percent of U.S. industrial production by value. General Motors, Ford, and Chrysler together account for roughly 70 percent of U.S. auto production and are estimated to support around five million jobs across all 50 states.

Why is the auto industry in such an unstable position? That depends on who you talk to or what stance you want to take. There are extreme opinions ranging from bad management practices, labor contracts, health-care coverage (that continue decades after workers leave the company) to poorly designed vehicles, record high gas prices with a decline in the demand for the gas-guzzling trucks and SUVs, and ignoring the development and implementation of green technology.

Most importantly, as the ongoing worldwide financial crisis continues, the lack of vehicle consumers only prolongs the automotive industry's slump. We're talking not only domestic, but also international producers and suppliers.

Even Toyota Motor cited a recent downturn after years of strong results.

Anyway you look at it you can see why many people are concerned at giving the automaker's management and workers billions of taxpayer dollars. Supporters cite how this will enable the industry to bridge what is one of the country's most difficult economic periods and to weather a financial storm not of its own making.

Annette Sykora, the chairman of the National Automobile Dealers Association says the loans were given to stabilize the industry, and it is in the process of doing just that. To date, two of the big three have accepted the first few billions of the total allocation, but what happens next is uncertain.

Will there be company layoffs and plant shutdowns? Yes. I can attest that a local plant in my area is closing its door with layoffs only in the hundreds. That's small compared to the thousands of layoffs that will eventually occur.

General Motors acknowledged that the company is expected to trim its lineup of vehicle brands, and cancel production of many vehicles. Does this mean we will have less vehicle choices and options for our clients? Yes.

I'm looking forward to hearing the OEM presentations at this year's NMEDA conference. How are they handling the tough economic times, and will there be good news about the automobile mobility market? I'm not holding my breath.

I sincerely hope that the auto bailout was not just a quick fix, a crutch with no fundamental solutions. As we continue into the New Year, my wish is that the automobile industry bounces back, with the rest of the economy, and becomes more innovative, cost-effective and productive as compared to the last few decades. The sooner this happens, the better for us.

"We cannot build our own future without helping others to build theirs." William J. Clinton

Here's to a profitable and industrious New Year.

Amy Lane

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The nine most terrifying words in the English language are I'm from the government and I'm here to help.

— Ronald Reagan

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AED

The Association for Driver Rehabilitation Specialists
2425 N. Center St., #369
Hickory, North Carolina
28601

Phone: (828) 855-1623
(866) 672-9466 Toll Free in the US & Canada

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THE ARTICLES PUBLISHED in News Brake reflect the opinions of their authors, not the editor, the ADED organization at large, or its Board of Directors. As such, ADED neither takes a position on nor assumes responsibility for the accuracy of the information or statements contained in any articles published in News Brake.

ADDITIONAL ISSUES are available by contacting the editor at 412-864-3068, News.Braeke is published quarterly. Articles are accepted by members and non-members of the ADED association at the discretion of the editor and as space permits.

For advertising rates, please contact Amy Lane, OTR/L, CDRS at 412-864-3068, Fax (412) 647-1392 or email to laneak@upmc.edu.
Switching to Secondaries

(AM) 8:30 a.m. - 12:00 p.m.

Once operations of the primary controls of a vehicle have been determined for a driver, access to the secondary and accessory controls must be considered. There are many options today for these controls; however, many times the driver rehabilitation specialist must “think out of the box” for placement or access to meet individual needs.

This presentation will educate the participant on all of the manufacturers of remote secondary and accessory controls, the more common and usual placement and operation of them as well as unique configuration of switches/controls to meet individual needs. Participants will have the opportunity to handle samples of various devices and see them used in videos of personal vehicles. The importance of a final fitting/inspection with the vendor and the CDRS will be discussed. Case studies will be used for practicing the writing of specific prescriptions for individual needs.

**Course Level:** Intermediate

**Presenters:** Carol Blackburn, OTR/L, CDRS (Adaptive Mobility Services, Inc.) and Susan Pierce, OTR/L, CDRS, SCDCM (Adaptive Mobility Services, Inc.)

Email info@nmeda.org for more information.

Disabilities and Implications for Safe and Independent Driving

(PM) 1:00 p.m. - 4:30 p.m.

The driving task is a combination of visual, cognitive and motor skills. Impairment in any area can impact driving. The same adaptive equipment is often applicable for a variety of diagnoses. This presentation will be an overview of disabilities and the implications for safe and independent driving. Congenital, acquired and progressive disabilities will be addressed. Also, the aging process as it affects clients with disabilities and the need for monitoring adaptive equipment needs over the long term. Resource information will be provided for participants to access individual State driving requirements and regulations.

**Course Level:** Intermediate

**Presenter:** Anne Hegberg, MS, OTR/L, CDRS and CDI (Marianjoy Rehabilitation Hospital - Wheaton, IL)

Fax or mail completed form to:

NMEDA
3327 West Bearss Avenue
Tampa, FL 33618
Fax: 813.962.8970
Phone: 800.833.0427
Greetings ADED members! I trust that your holidays were joyful and spent with loved ones. A New Year is upon us and with that, your 2009 ADED Board is busy working on a strategic plan which furthers our mission to provide education and support to members. Kathie Regan and the conference team are busy planning for 2009 conference and have coordinated educational courses in conjunction with February’s NMEDA conference.

2009 Board Members:
- Past President: Lori Benner
- President: Susan Pierce
- President Elect: Jim Kennedy
- Treasurer: Peggy Gannon
- Secretary: Mary Ellen Keith
- Board Member at Large: Eva Richardville
- Board Member at Large: Tommy Crumpton
- Corporate Member: Tom Bonnell
- Mobility Equipment Dealer Member: position open at time of printing

The board met in December 2008 to transition with outgoing board members, orient incoming members and begin strategic planning for 2009 and beyond. The meeting was very successful and the board is excited to continue the hard work of managing the association. I am especially excited to work with this group of hard working, intelligent and resourceful individuals. It is truly a privilege to serve on the ADED board and this team is dedicated to taking the association to forward. There is always need for member participation and commitment for service. There are openings in many of our committees; please feel free to contact the committee chair or board member if you are interested in becoming more active.

CDRS Renewals- Check your certificate! If your CDRS expired 12/31/2008, and you have not submitted a renewal, your credentials are now expired. However, it is not too late to renew! CDRS renewal applications are available on the web at www.aded.net. If you require a hard copy mailed to you, please contact the ADED Executive office at: info@driver-ed.org or by telephone at: (828) 855-1623.

Membership Renewals- A huge thank you goes out to the members that have renewed their memberships for 2009. In order to keep your member profile active on the ADED website, you must renew your membership. If you did not receive renewal applications in the mail, one is available on the website. Renewals may also be done through the website. If you have any trouble logging into your account, please e-mail us at info@driver-ed.org.

2009 ADED Annual Conference- Mark your calendars for 2009 Annual Conference in Lexington, Kentucky August 7-11. Scholarship opportunities are available through generous support from Adaptive Driving Alliance and Crescent Industries. Through the ADED Memorial Scholarship Fund, the association provides financial assistance to members for ADED Course attendance. Two courses will be offered in the days prior to conference. Do not hesitate to submit your application!

Sincerely,
Liz Green, Executive Director

Moving Forward ADED board meetings updates

This last quarter the ADED Board has been meeting monthly via teleconferences working on various issues, policies & procedures, reviewing ADED Courses and preparing the budget for the year to come.

Elizabeth Green moved seamlessly into the full time Executive Director position of ADED. She has been a positive asset to ADED.

The transitional ADED Board meeting was in Louisville, KY on December 7 and 8 where current board members and three new transitioning members worked together. The new ADED Board members are Jim Kennedy- President Elect, Mary Ellen Keith - Secretary, and Tommy Crumpton- Board Member at Large. Strategic planning was facilitated by our President Elect Susan Pierce for goal setting & group assignment for 2009.

The ADED Board had an opportunity to meet with the ADED Conference Meeting Planner Kathie Regan & conference team. They reviewed upcoming arrangements and plans for both the ADED continuing education at NMEDA conference and for the 2009 ADED Conference. It was a productive meeting and the 2009 ADED Board looks forward to serving you and getting you involved in making ADED meet your needs.

Respectfully submitted,
Carol Blanc
Secretary
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2009 ADED Board Members

**CHAPTER NEWS**

**MIDWEST CHAPTER**

The Midwest Chapter conference and meeting will be held on March 6th and 7th, 2009 at The Crossroads Rehab Center in Indianapolis, IN. Mary Ellen Keith has arranged for speakers and is preparing a brochure.

**NORTHEAST CHAPTER**

The new and improved ADED NE Equipment list with all sorts of indices has been produced. Thanks again to those of you who answered the call and divulged data. Matt Meltzer has agreed to keep the main list and add updates as received.

Don Sampson worked hard to obtain contact hours for those attending the NETSEA Conference. A chapter meeting was held during the Conference. Amanda Plourde and Bruce Renfro have agreed to continue to represent the Northeast chapter on the NETSEA Board.

In December, the chapter elections were held. Mark Whitehouse was elected as our new Chapter President and Holly Alexander as our Secretary. Congratulations and good luck to our new officers.

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**Future ADED Conference Sites**

2009 Lexington, KY
2010 Kansas City, MO

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Meet the Board of Directors

Susan Pierce
President 2009

Graduating in 1977 with a B.S. Degree in Occupational Therapy, Susan has more than 30 years of experience in driver rehabilitation services. She developed driver rehabilitation programs in Georgia, Louisiana and Florida before starting her own business, Adaptive Mobility Services, Inc. in 1990. In addition to providing driver evaluation and driver education services, she has provided yearly formal educational seminars since 1982 for therapists needing specialized training in the driver rehabilitation field.

Susan has been published in many professional journals and magazines. She has authored, co-authored and written chapters related to driving in professional publications.

Susan has been involved with ADED since 1979, serving on the Board for 15 years, as secretary in 1984, President in 1986-1987 and again in 1995. She was instrumental in initiating the certification program, serving on the Certification Committee for 7 years and being its chairperson for 3 years. She received charter certification as a Driver Rehabilitation Specialist in 1988. She was awarded the ADED Scholar Award in 1994. Susan was invited by the American Occupational Therapy Association in 2003-2005 to serve on an expert panel for advice on the older driver initiatives. She was given two Recognition of Achievement Awards by AOTA at the 2005 Annual Conference for “Mentor and Pioneer of Driver Rehabilitation for Disabled” and “Occupational Therapy Pioneer in Educating Therapists in Driver Rehabilitation”. She received specialty certification in Driving and Community Mobility” in 2006 from the AOTA.

James Kennedy 2009
President Elect

James Kennedy is currently employed as a CDRS at Shepherd Center. He has practiced in the field of Driver Rehabilitation, including training, assessment, vehicle modification and the development of adaptive driving equipment, for thirty years.

He has provided education and service to the end user, fellow therapists, the State Department of Motor Vehicles, Funding Sources, National Associations (NMEDA, RESNA, ADED) and vendors throughout this career. He is highly skilled and competent with vehicle modification, client fitting and Driver Rehabilitation Training/Evaluation. He has trained with the DSI, EMC, Ahnafield, and Alba High Tech driving systems. He is committed to working as a team with Occupational therapists, Vocational Rehabilitation Counselors, Rehabilitation Engineers, Vendors, Physical Therapists and Seating Specialists, to achieve the best outcome for his clients. He has served on the ADED Certification Committee as Assistant Chair in 2003 and Chair in 2004 and 2005. He was awarded the NMEDA Golden Gear Award for contributions to driving technology development. Over the years, he has provided Driver Evaluation and training in Arizona, North Carolina, South Carolina, Tennessee, Florida, Ohio, Alabama, Kentucky, Maryland, Kansas, Colorado, Nebraska, Iowa, Virginia and Georgia.

Lori Benner
Past President 2009

Lori Benner is the past president of ADED. Lori has a passion for the future of ADED and believes strongly in the diversity of the organization. She advocates that it is in bringing the allied health, traffic safety, manufacturing and mobility equipment dealer professions together that we best serve our clients.

Peggy Gannon
Treasurer

Peggy Gannon is the current Treasurer for ADED. She is a long time resident of Jacksonville, Florida. Peggy works at Brooks Rehabilitation and splits her time between driving evaluations and driving training, and working in the Neuromotor Rehabilitation Day Treatment Program as a cognitive therapist. Peggy has worked at Brooks Rehabilitation for approximately 20 years and has been involved in the driving program for the last 10. Peggy is excited about being involved in the ADED and bringing a different perspective to the organization. She strongly believes that ADED has a lot to offer to its members.

Mary Ellen Keith
Secretary

Mary Ellen Keith is the Lead Driver Rehabilitation Specialist at Easter Seals Crossroads Rehabilitation Center. Since 2000, she has reorganized and re-structured their driver evaluation program including developing the bioptic driver training section. She is certified by the state of Indiana to teach driving to low vision clients using
a biotic telescope. She has quickly earned the respect and reputation of being an expert in the field of OT biotic driver training with other therapists, eye care specialists, vocational rehabilitation agencies and consumers. She has assisted in the training and certification of other therapists from Indiana and other states to become biotic instructors.

She has been a member of the Association of Driver Rehabilitation Specialists (ADED) since 2000 and was the vice president of the ADED Midwest chapter in 2006. She has been a member of the American Occupational Therapy Association (AOTA) since 2000. She has presented at their past conferences and has been an invited speaker to the First and Second Annual Driving Symposium for Occupational Therapists sponsored by AOTA in collaboration with Adaptive Mobility Services, Inc. She became an in-vehicle instructor for Adaptive Mobility Services’ workshop entitled Take the Wheel: A Driver Education Course for the Therapist in 2006. She has spoken to many professionals, OT students and consumer audiences on the topic of occupational therapy and driver rehabilitation, low vision and driving.

EVA RICHARDVILLE
BOARD MEMBER AT LARGE

Eva Richardville is a 1998 Indiana University Occupational Therapy Program graduate. She is owner and President of Therapeutic Mobility Services, Inc., a private practice community-based program in Fort Wayne, Indiana which specializes in driver rehabilitation and community mobility. She works closely with advocacy agencies for community inclusion for the disabled and provides education on issues related to driver rehabilitation. Eva has been an active participant in the Midwest Chapter of ADED, serving in the past as Vice President and also as President over the last 3 years. She has presented regionally and nationally on the topics of driver rehabilitation, low vision and biotic driver rehab services. Eva possesses a strong commitment to the ADED membership through hard work, dedication and a strong desire to advance the ADED organization forward into the future.

TOMMY CRUMPTON
BOARD MEMBER AT LARGE

Tommy Crumpton has been an Occupational Therapist since 1981 after earning a Master of Occupational Therapy degree from Texas Woman’s University. He has been a Certified Driving Instructor since 1992, a member of ADED since 1992, and was in the first group to sit for and receive the CDRS certification in 1995.

Tommy works at the Baylor Institute for Rehabilitation in Dallas, Texas in the Adaptive Driving Program. He is a recocring guest lecturer at the Texas Woman’s University School of Occupational Therapy, introducing students to the field of Driver Education for the disabled population. He has made numerous presentations in both the professional and public arenas. He has been a presenter on several occasions at ADED conferences, and was on the ADED local host committee for the Annual Conferences held in Dallas in 1996 and 2007.

Tommy says: "ADED is such a unique organization, with members coming from several professions all having a common goal of improving mobility for the disabled individual. We have so much to share with each other that would make our organization, and therefore our individual programs stronger. As your representative on the ADED Board in the Member-at-Large position, I would like to work towards the development of a mentoring program for those new to the field of Driver Rehabilitation. I certainly see an opportunity for us to cross the professional boundaries that makes ADED such a great organization by developing a “buddy system” between the inexperienced member and the more experienced members, making them feel welcome as they gain knowledge and skill. Look for more information to come as we prepare for the Annual conference in Lexington.”

TOM BONNELL
CORPORATE MEMBER

Tom Bonnell graduated from Ball State University and Purdue University and has been employed by Ralph Braun for over 32 years in various capacities. Presently he is the general manager of Mobility Products & Design. He accepted the position on the ADED Board of Directors in May of 2008 upon the passing of the late Barb Kerls. Tom had the desire to contribute in various ways, but felt his strengths were in presenting the business point of view and perhaps offering financial and marketing suggestions to the ADED board for consideration. This past conference he interacted with the various vendors and the conference trade show team.

On the local level, he has served on the board of the non-profit Economic Development Commission and presently serves on the non-profit board of his local Community Foundation. He served ten years as the Manufacturer’s Representative on the State of Indiana School Bus Safety Board dealing with the safe transportation of children with disabilities. On the national level, he has served as the Manufacturer’s Representative of the then UMTA transportation committee and the work became part of the Americans with Disabilities Act of 1990.

Tom has enjoyed his time working ADED and hopes that his contributions over the past few months have been of use to the organization. He is delighted to continue to serve on the ADED board of directors.

ELIZABETH GREEN
EXECUTIVE DIRECTOR

Liz Green, Executive Director
**The Buzz**

Mark Lore, President and CEO
Ride-Away Handicap Equipment Corp.

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CHECK ENGINE LIGHTS FIXED WITH BLACK TAPE?

Although most of us tend to ignore our car’s “Check Engine” light when it comes on, it’s not a good idea to drive with it on for a long time. When these alarm systems first came out, I was convinced that it was a way to get the car dealer to get you back into their shop, fiddle around for a while, then bill you $500! There are even some stories that these lights come on at regular mileage intervals and for some brands of cars only the dealers can shut it off. I’ve even used the “black tape” fix to help me ignore the annoying light. Well the real story is that although when the light comes on, it isn’t generally necessary that you pull over and get service immediately. Driving for extended periods of time however can lead to much more expensive engine repairs. Typically the check engine light comes on when the engine’s oxygen sensor is causing a fuel mixture that is either too rich or too lean. Extended driving with this condition can result in damage to the catalytic converter and other engine components. It can also reduce the fuel efficiency by up to 40% while creating many more harmful emissions coming out of the tailpipe.

Vehicles usually have anywhere from 1-4 sensors throughout the exhaust stream and replacing one usually costs less than $300 whereas the damage caused by extended driving with a bad O2 sensor can cost over $1000. The O2 sensors measure the oxygen in the exhaust and signal the computer to adjust the air-fuel ratio, thus ensuring combustion that is as complete as possible. On another note, if the check engine light is flashing that usually means immediate service is required.

“Automotive Digest 8/08

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BAD BREATHALYSERS?

Recently, many over the counter do-it-yourself were scientifically tested for accuracy and it was found that most of them were woefully wrong. More than half of the units tested often gave false readings and many of them indicated that the “blower” was not over the legal limit for intoxication when in fact they were. Every single device gave a different result from the police unit when it was tested. The majority of the devices bore no manufacturer’s name and were imported from Hong Kong and China. It was also determined in general that the cheaper the unit, the less accurate it was.

*Company Car Driver 11/08*

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BYE BYE IBOT

In a December statement issued by Independence Technology, it was publicized that the company will no longer manufacture the iBOT wheelchair. This wheelchair which was perhaps best known for its stair climbing ability, formally debuted in 2003. The iBOT used gyroscope technology which allowed it to balance on 2 wheels as well as climb stairs and other obstacles. In addition to this product, the company also sold and marketed the iGLIDE power-assisted manual wheelchair but that product was discontinued after one year in 2004.

According to an Independence Technology spokesperson, the products were discontinued due to a “challenging reimbursement environment which has been a factor in limiting demand.” The spokesperson went on to say that the news of the iBOT’s end was a “disappointing announcement” and that the overall sales numbers were in the “hundreds, not the thousands.” Unlike other wheelchair manufacturers, Independence Technology tried to market these products by skipping the DME Supplier network and using the clinical people in the rehab facility who were trained to assess clients for their products. They also used roving technicians initially when the need for repairs arose, but later they had a telephone hotline that would diagnose the problem over the phone and then mail the parts directly to the owners. The company claims that it will provide tech support and parts to iBOT users until 2013 at which time they will close the company.

“Mobility Management 1/09

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NEW PRODUCT AGAIN – THE DIGITAL ACCELERATOR RING

For those of you who have been around since the early 1990s you may remember that we had a new product to sell as an alternative to the high tech driving systems made in the USA. Well, that product is back and it is being manufactured by KEMPF Inc., a French company that has set up a couple of installation points in this country. KEMPF to date has not worked with the traditional mobility dealers and chooses to install their products in their facilities in Tampa and California. The company has focused on marketing to the VA, probably because of the high level of reimbursement for their products. The unit, which fits inside the steering wheel, uses a push-pull motion for gas and brake and it allows the driver to keep both hands on the steering wheel. The price for the product is around $15000 installed and calls to KEMPF about how they plan to provide service for their clients went unanswered.

When we sold and installed this product in the early 1990s (and it may have been produced by a different company back then), we had put it in a client’s vehicle because a driving evaluator had prescribed it. Several months after the installation the unit needed service and parts but the manufacturer had closed its doors and we were unable to provide repairs, thus forcing the client to get a different product. Although new products in our industry have the ability to offer great benefits to many people, it’s important to determine if the manufacturers have the staying power in a limited market to provide years of service and parts!

“PN 10/08

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CRASH TESTED WHEELCHAIRS

Although the standard for a crash tested wheelchair has been around for many years, recently there seems to be much more interest by wheelchair manufacturers to offer products that meet this standard. The Rehabilitation Engineering Society of North America (RESNA) has worked for over a decade to create and improve the standards for wheelchairs so that they will fare well in protecting a wheelchair occupant in a motor vehicle crash. They have come up with the ANSI/RESNA WC19 standard that sets design, testing, and labeling requirements for wheelchair manufacturers. A wheelchair meeting the current WC19 standard would work in conjunction with a tiedown system that has met the 30mph/20g simulated crash test standards and would have several characteristics. These would include four clearly marked and easy to reach secure-
ment points and the frame is designed to more easily route the lap/shoulder seat belts through the wheelchair so that they fit more appropriately on the occupant. This standard is designed predominately to protect the wheelchair and user from frontal crashes which are the most prevalent and deadly.

**A NEW WAY TO GET A TICKET IN CA**

Effective January 1, 2009, texting while driving has been made illegal in California. Under the new regulation it is against the law to compose, send, and read a text, instant message, email, or browse the web from any mobile device while operating a motorized vehicle. This includes anytime the engine is running such as being stopped at a light, stop sign, or stuck in a traffic jam. In addition, if any violation of the above is found to contribute to an accident, you can get hit with a host of other charges such as reckless driving or unsafe speed for conditions.

**LOSE WEIGHT, BURN FAT!**

A Beverly Hills doctor has fled the country in order to avoid prosecution after he claimed that he used liposuctioned fat from his patients to make biodiesel to fuel his SUV and his girlfriend’s Navigator. In November, the California State Medical Board searched the doctor’s office and home, seizing medical records, computers, and other materials regarding his “liposculpting” practice. The doctor, Craig Alan Bittner, has reportedly fled to South America where accusations have not yet been substantiated, such a practice is a crime in the U.S.

**HOT NEW SAFETY FEATURES HITTING THE LUXURY MARKET**

As cars keep getting safer and features close on controlling the car when we can’t, below are the latest safety technologies that are available in some luxury cars:

- **Forward Collision Warning** – Radar or laser sensors in the front of a car sound a warning, seat belts begin to tighten, and in some cars the brakes begin to apply.
- **Emergency Brake Assist** – Provides extra power to the brakes when you try to stop suddenly with brake pedal sensors helping the computer understand if the situation is normal or not.
- **Lane Departure Warning** – Cameras and monitors as well as computer readings on the steering angle and throttle will help the car sense if you are drifting out of your lane or off the road and will sound a warning or even take over steering if it senses that the driver isn’t reacting correctly.
- **Adaptive Headlights** – Move with your steering wheel so you can actually see where you are going.
- **Blind Spot Detection** – Cameras scan both sides of the car to let you know when someone has entered one of the blind spots on your vehicle.
- **Other Great Car Ideas That Are Happening:**
  - **Infiniti’s Scratch Shield** – this clear coat will actually “heal” light scratches by automatically filling in paint where they appear.
  - **Ford’s capless fuel system**
  - **Keyless ignitions** – push button start systems
  - **Engine Shut-off Systems** – Already prevalent in some European countries, this feature shuts the engine off in order to conserve fuel and eliminate idling anytime the car stops.

**MAN BUILDS LAMBORGHINI IN BASEMENT**

Ken Imhoff from Wisconsin fell in love with the sports car in the movie Cannonball Run so he decided to build one in his cellar. Although it took him 17 years to do it, he ended up with a perfect replica of the car. Then he realized he had a problem – How to get it out of the house. Imhoff had to hire an excavator to remove a big section of the foundation from his home and dig through his garden to get the car out.

**HE LOVES SCHOOL**

A 6 year old boy who missed the school bus tried to drive his mother’s 2005 Ford Taurus there, but crashed. Police said that the Richmond boy suffered only minor injuries although he had run off the road several times before finally hitting an embankment and telephone pole. The boy, who said he didn’t want to miss breakfast or Gym class, took his mother’s keys while she slept and even continued walking after he crashed the car. The parents have been charged with child endangerment.

**RAISING FUNDS FOR ADED MEMORIAL SCHOLARSHIP**

The ADED Memorial Scholarship was established to assist ADED members with funds to attend the ADED Course series. If you are interested in donating an item or monies to help buy items please contact:

Maryfrances Gross at mfgross@gmail.com or (859) 219-3144.
Reactions Time

In the facility that I work, patients are issued a beeper when registering for their appointments. These beepers are much like the ones you are given in a busy chain restaurant, while waiting for a table. This was born out of the demands of privacy laws to reduce the amount of times a person's name is broadcast in the large waiting room. Recently, one morning, the first client on my schedule was an elderly gentleman referred for a driver evaluation with a medical diagnosis of Parkinson's disease. I went to the lobby to greet my client, dutifully punched in his beeper number in the call system and looked around for my patient. I heard the beeper vibrating many seconds before he appeared to, so I was able to observe him respond to the stimulus and respond. After many seconds, it seemed to register to my patient that his name had been "called" and that he was to approach the greeting (me) staff member in waiting. Gingerly, he arose from his chair and shuffled across the large lobby in my direction. After brief introductions, I escorted him to my office for the assessment. As we walked slowly down the hallway, and exchanging pleasantries, my mind was already in evaluation mode, especially concerned about this gentleman's ability to respond and react in a driving environment. I was wondering, specifically what his reaction time would be in the clinic and in the car. In the simplest terms, reaction time is defined as "the interval of time between the application of a stimulus and the first indication of a response." (encarta.msn.com)

As those of us in the industry know, reaction time is much more complicated than a simple response to a stimulus. There are many factors that influence reaction time and many different types of reaction time. According to the article "How Long Does It Take To Stop?" Methodological Analysis of Driver Perception-Brake Times Transportation Human Factors, 2, pp 195-216, 2000, there are many components of reaction time. These include: Mental Processing time, Movement Time and Device Processing Time. The authors note that brake reaction time can be affected by whether the stimulus is expected, unexpected and surprise. The expected stimulus is a situation that the driver is aware that braking will be required such as when coming to a stop or parking. An unexpected stimulus is something such as a changing traffic light or brake lights ahead; the driver recognizes that braking is an expected and required response; however increased time is required to process the information. Unexpected stimulus would be classified as an occurrence where something out of the ordinary occurs; ball rolling into the street, a pedestrian or another car crossing the street. Additional time is required to identify the hazard, process the information and respond appropriately to the stimulus.

By observation, my client required additional time to process an unexpected stimulus; he had the beeper in hand, but when it activated, it took him longer to respond than I would have considered "normal." Evaluators utilize a battery of assessment and measurements in the clinic. One of those tools that a great majority of driver evaluators use in the clinic is the brake reaction timer. Many of us have the machine that consists of a blue box with small green and red lights. Along with the lights are two pedals, resembling that of an accelerator and brake pedal. The client is instructed to move their foot from the accelerator to the brake pedal when the red light is activated. Not surprisingly, my client that morning did very poorly with this task. He took longer than average time to learn the instructions and his overall brake reaction time score was .825 seconds. According to the norms provided by the manufacturer, his score was
below average for his age and sex. Obviously, I was concerned about his ability to react and respond to changing traffic and roadway conditions while driving. So we went for a drive. The client completed the full standardized road test demonstrating ability to attend to the driving environment, respond and react appropriately to all conditions presented. I see this disconnect between clinical testing and on the road performance often. It is because of these inconsistencies, that a road test is a standard part of the full evaluation procedure at my facility. I have also seen performances in the reverse; the client learns the brake reaction timer quickly and obtains average scores while demonstrating significant delays in identification, reaction and response times when driving on the road.

There are many studies that may hold the key to why my particular client performed so differently on the road than in the clinic setting. The results of the Visual and cognitive predictors of performance on brake reaction test; Salisbury eye evaluation driving study. Ophthalmic EPidemiol. 2007; 14(4):216-22 (ISSN:0928-6586) suggest that age, gender and cognition can be predictors for physical response speed. The authors noted that initial reaction speed depends on vision. They note that “persons in good physical condition may perform poorly on brake reaction tests if their vision or cognition is compromised.”

Another study appears to isolate the portion of the brain responsible for perceptions of visual stimulus appearance. They state that these perceptions are established in the extrastriate areas (around middle temporal visual area) for motion and around the fourth visual area for color. Estimation of the timing of human visual perception from magnetoencephalography. J Neurosci. 2006; 26(15):3981-91 (ISSN:1529-2401).

Other factors that can influence reaction time include but are not limited to: cognitive load, stimulus-response compatibility, psychological refractory period, age and gender. These areas are outlined and defined in helpful detail in an on-line article. There is a wonderful summary article on the internet that covers these areas and does an excellent job summarizing the above mentioned “How long does it take to stop?” article. It can be found at: http://www.visualexpert.com/Resources/reactiontime.html

Considering the data that I took during the clinical assessment, recording my observations in the clinic and the driver’s performance on the road, my recommendations were for the physician to consider allowing the client to continue driving in the limited, local and familiar environment that he habitually drives. Further recommendations were for future re-evaluations. Afterwards, and during the research for this article, I was pleased to find a study that supported my clinical decision making process. In Parkinson’s disease and driving ability. J Neurol Neurosurg Psychiatry. 2007; 78(4):363-6 (ISSN:1468-330X), the authors explored the driving problems associated with Parkinson’s disease and to ascertain whether any clinical features or tests predict driver safety. They concluded that “most individuals with PD are safe to drive, although many benefit from car modifications or from using an automatic transmission.”

Safe travels,

Liz Green, OTR/L, CDRS
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NEWS FROM NMD EA

Join the National Mobility Equipment Dealers Association (NMD EA) as it celebrates its 20th Anniversary at the 2009 Annual NMD EA Conference in sunny Daytona Beach, Florida on February 4-6, 2009. At the event, attendees will enjoy three days of workshops, educational exhibits and more.

This year, NMD EA welcomes AD ED again to provide their pre-conference seminars for professionals on Tuesday, February 3. Attendance of these seminars counts towards ADED CDRS renewal points. ADED is providing even more workshops for our membership than before.

We are also celebrating the association's 20th anniversary at the conference. Attendees of the conference will also have a chance to meet the association's new CEO, Dave Hubbard. He brings an array of ideas which will help move the association into its twentieth year—and beyond!

The NMD EA 2009 Annual Conference, celebrating 20 years of "Changing the Tides in Mobility"—For more information please visit http://www.nmeda.org/
In the Kansas Division of Vehicles, there is a Driver Review Section to review and monitor drivers and potential drivers with physical, mental or visual impairments. In 2008 we reviewed more than 16,000 medical and vision cases on drivers aged 14 to 105. This includes instructional Permits and Farm Permits which may be issued for those 14 and over. Our processes are all ADA compliant and some of our programs and processes have gained the attention of AAMVA and also NHTSA because they are programs that are successful and do not discriminate against the elderly or impaired.

I have worked for the State of Kansas for 26 years and 15 of those in Driver Review. During my time here we have evolved from just “processing” of applications to becoming counselors for those seeking to obtain or maintain driving privileges after a medical or visual condition has changed their lives. We now work extensively with the various rehabilitation driving centers in our state, as well as some centers in the surrounding states.

Generally applicants with impairments self report to us, but we also work off of “letters of concern” from physicians, health care professionals, police officers, social workers, and family members. When a medical or vision report is requested, our office begins an electronic file. Only Driver Review associates can work with the medical and vision cases, although we do have to coordinate any entry that goes on the driving record, such as revocations and reinstatements, and with Driver Control, which is our data entry and record maintenance group.

When the medical and/or vision forms are generated, we may request a certain time deadline for an applicant based on the status of the drivers license. Most applicants are given 30 days to comply with an order. If the forms are not mailed back to us the applicant is subject to revocation of driving privileges or denial of renewal or application. If the forms are received and approved, our office will take the applicant step by step through the process of obtaining or maintaining his license.

If the applicant has suffered a stroke or spinal cord injury, or has otherwise been referred to a rehabilitation driving center, we will request medical and vision forms to be completed. If approved, we will generate a letter authorizing an instruction permit, also if the license has expired during the recovery period. We may authorize a temporary reinstatement if driving privileges were previously revoked. We then request a copy of the driving evaluation to determine whether any required restrictions were recommended by the OTR or CDRS. We usually request a final determination by the applicant’s physician, in case he or she did not previously agree that the applicant is a “safe” driver.

When the reports are received, and both the CDRS and the doctor agree the applicant is a candidate for a license, we authorize a driving test. If the applicant passes, the license will be issued with the restrictions suggested by the CDRS or found to be necessary by the Drivers License Examiner. We allow four chances at the driving test if improvement is needed and seems possible. We may allow continuation on an instruction permit if an applicant will require extensive training and practice or even time to purchase a modified vehicle. We also may make arrangements for a student driver who has been evaluated, to continue with regular driver education at their high school or private driving school.
Driver Reaction Time

By Marc Green, Ph. D
www.visualexpert.com/index.html

This is a brief summary/elaboration of the article, "How Long Does It Take To Stop? Methodological Analysis of Driver Perception-Brake Times" Transportation Human Factors, 2, pp 195-216, 2000.

In many cases, the speed with which a person can respond, "reaction time," is the key to assigning liability. It is common practice for accident reconstructionists simply to use a standard reaction time number, such as 1.5 seconds, when analyzing a case. In fact, reaction time is a complicated behavior and is affected by a large number of variables. There can be no single number that applies universally.

Reaction time is a surprisingly complex topic. Unfortunately, most "experts" used canned numbers without a good appreciation for where the numbers originate, how they were obtained or the variables that affect them. Moreover, there are several distinct classes of reaction time, each with somewhat different properties. In this article, I briefly describe some key issues. The discussion focuses primarily on driver reaction time.

Reaction Time Components

When a person responds to something s/he hears, sees or feels, the total reaction time can be decomposed into a sequence of components.

1. Mental Processing

This is the time it takes for the responder to perceive that a signal has occurred and to decide upon a response. For example, it is the time required for a driver to detect that a pedestrian is walking across the roadway directly ahead and to decide that the brakes should be applied. Mental processing time is itself a composite of four substages:

• SENSATION: the time it takes to detect the sensory input from an object ("There is a shape on the road."). All things being equal, reaction time decreases with greater signal intensity (brightness, contrast, size, loudness, etc.), foveal viewing, and better visibility conditions. Best reaction times are faster for auditory signals than for visual ones. This stage likely does not result in conscious awareness.

• PERCEPTION/RECOGNITION: the time needed to recognize the meaning of the sensation. ("The shape is a person.") This requires the application of information from memory to interpret the sensory input. In some cases, "automatic response," this stage is very fast. In others, "controlled response," it may take considerable time. In general, novel input slows response, as does low signal probability, uncertainty (signal location, time or form), and surprise.

• SITUATIONAL AWARENESS: the time needed to recognize and interpret the scene, extract its meaning and possibility extrapolate into the future. For example, once a driver recognizes a pedestrian in the road, and combines that perception with

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Driver Reaction Time

knowledge of his own speed and distance, then he realizes what is happening and what will happen next - the car is heading toward the pedestrian and will possibly result in a collision unless action is taken. As with perception/recognition, novelty slows this mental processing stage. Selection of the wrong memory schema may result in misinterpretation.

- RESPONSE SELECTION AND PROGRAMMING: the time necessary to decide which if any response to make and to mentally program the movement. ("I should steer left instead of braking.") Response selection slows under choice reaction time when there are multiple possible signals. Conversely, practice decreases the required time. Lastly, electrophysiological studies show that most people exhibit preparatory muscles potentials prior to the actual movement. In other words, the decision to respond occurs appreciably faster than any recordable response can be observed or measured.

These four stages are usually lumped together as "perception time," a misnomer since response selection and some aspects of situational awareness are decision, not perception.

2. Movement Time

Once a response is selected, the responder must perform the required muscle movement. For example, it takes time to lift the foot off of the accelerator pedal, move it laterally to the brake and then to depress the pedal.

Several factors affect movement times. In general, more complex the movements require longer movement times while practice lowers movement times. Finally the Yerkes-Dodson Law says that high emotional arousal, which may be created by emergency, speeds gross motor movements but impairs fine detailed movements.

3. Device Response Time

Mechanical devices take time to actuate, even after the responder has acted. For example, a driver stepping on the brake pedal does not stop the car immediately. Instead, the stopping is a function of physical forces, gravity and friction.

Here's a simple example. Suppose a person is driving a car at 55 mph (80.67 feet/sec) during the day on a dry, level road. He sees a pedestrian and applies the brakes. What is the shortest stopping distance than can reasonably be expected? Total stopping distance consists of three components:

1. Reaction Distance. First, Suppose the reaction time is 1.5 seconds. This means that the car will travel 1.5 x80.67 or 120.9 feet before the brakes are even applied.

2. Brake Engagement Distance. Most reaction time studies consider the response completed at the moment the foot touches the brake pedal. However, brakes do not engage instantaneously. There is an additional time required for the pedal to depress and for the brakes to engage. This is variable and difficult to summarize in a single number because it depends on urgency and braking style. In an emergency, a reasonable estimate is .3 second, adding another 24.2 feet.

3. Physical Force Distance. Once the brakes engage, the stopping distance is determined by physical forces \(D=S^2/(2gf)\) as 134.4 feet.

Total Stopping Distance = 120.9 ft + 24.2 ft + 134.4 ft = 279.5 ft

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Almost half the distance is created by driver reaction time. This is one reason that it is vital to have a good estimate of speed of human response. Below, I give some values which I have derived from my own experience and from an extensive review of research results.

Response speed depends on several factors so there can be no single, universal reaction time value. Here is a list of factors which affect reaction time. In all cases, the times assume daylight and good visibility conditions.

**Expectation**

Reaction times are greatly affected by whether the driver is alert to the need to brake. I’ve found it useful to divide alertness into three classes:

- EXPECTED: the driver is alert and aware of the good possibility that braking will be necessary. This is the absolute best reaction time possible. The best estimate is 0.7 second. Of this, 0.5 is perception and 0.2 is movement, the time required to release the accelerator and to depress the brake pedal.

- UNEXPECTED: the driver detects a common road signal such as a brake from the car ahead or from a traffic signal. Reaction time is somewhat slower, about 1.25 seconds. This is due to the increase in perception time to over a second with movement time still about 0.2 second.

- SURPRISE: the drive encounters a very unusual circumstance, such as a pedestrian or another car crossing the road in the near distance. There is extra time needed to interpret the event and to decide upon response. Reaction time depends to some extent on the distance to the obstacle and whether it is approaching from the side and is first seen in peripheral vision. The best estimate is 1.5 seconds for side incursions and perhaps a few tenths of a second faster for straight-ahead obstacles. Perception time is 1.2 seconds while movement time lengthens to 0.3 second.

The increased reaction time is due to several factors, including the need to interpret the novel situation and possibly to decide whether there is time to brake or whether steering is better response. Moreover, drivers encountering another vehicle or pedestrian that violates traffic regulations tend to hesitate, expecting the vehicle/pedestrian to eventually halt. Lastly, there can be response conflict that lengthens reaction time. For example, if a driver’s only possible response requires steering into an oncoming traffic lane (to the left) there may be a hesitation.

**Urgency**

People brake faster when there is great urgency, when the time to collision is briefer. The driver is traveling faster and/or the obstacle is near when first seen. While brake times generally fall with greater urgency, there are circumstances where reaction time becomes very long when time-to-collision is very short. The most common situation is that the driver has the option of steering into the oncoming lane in order to avoid the obstacle. The driver then must consider alternative responses, braking vs. steering, weight the dangers of each response, check...
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the left lane for traffic, etc.

**Cognitive Load**

When other driving or nondriving matters consume the driver's attention, then brake time becomes longer. For example, on a winding road, the driver must attend more to steering the car through the turns. Another major load on attention is the use of in-car displays and cell phones. There is no doubt that both cause with estimates ranging from 0.3 to as high a 1 second or more, depending on the circumstances.

**Stimulus-Response Compatibility**

Humans have some highly built-in connections between percepts and responses. Pairings with high "stimulus-response compatibility" tend to be made very fast, with little need for thinking and with low error. Low stimulus-response incompatibility usually means slow response and high likelihood of error.

One source of many accidents is the human tendency to respond in the direction away from a negative stimulus, such as an obstacle on a collision course. If a driver sees a car approach from the right, for example, the overwhelming tendency will be to steer left, often resulting in the driver steering right into the path of the oncoming vehicle. The stimulus-response capability overrides and the driver simply cannot take the time to observe the oncoming car's trajectory and to mentally calculate its future position. In short, the driver must respond to where the car is now, not where it will be at some point in the future.

Most people have experienced this phenomenon when going into a skid. The correct response is to turn the wheel in the direction of the skid, but it takes practice and mental concentration to avoid turning the wheel away from the skid, which is the high compatibility response.

**Psychological Refractory Period**

Following a response, people exhibit a "psychological refractory period." During this period, new responses are made more slowly than if there had been no previous behavior. For example, suppose a driver suddenly steers left and then right. The steerright response will occur more slowly because it immediately followed the steer-left.

**Age**

Although most basic research finds that older people respond slower than younger ones, the data on older drivers' braking times are not entirely clear. One problem is that different studies have used different definitions of older; that is, sometime "older means 55, sometimes it could mean 70. Moreover, some studies find no slowing of reaction time with age. Instead, they conclude that the older driver's greater experience and tendency to driver slower compensate all or in part for the decline in motor skills. Never the less, I would place the slowing with age to be about 0.3 seconds for a "moderately" older driver, say 65-70. On the other hand, older drivers generally compensate for slower reaction times with reduced speeds.

**Gender**

Although the data are not entirely clear, it seems likely that females respond slightly slower than males.

**Nature of the Signal**

In the examples cited above, the driver detected a distinct signal such as a brake light, the appearance of clear obstacle in the path, etc. Some braking cues are subtler and more difficult to detect, causing slower braking times.

One of the most difficult situations occurs when a driver must detect motion of the car immediately ahead, its acceleration or deceleration. Accidents frequently occur because the driver fails to notice that the car ahead has stopped and does not apply brakes until it is too late.

The general problem involves estimating time-to-collision (TTC). It is a tough problem for several reasons. One is that it is much more difficult to judge motion toward or away from you than it is to judge motion of something which cuts across your path. It's simply a matter of optics. Humans, in part, sense motion by registering the movement of an object image projected on the retina, the light-sensing portion of the eye. The movement of the object's image is much smaller with motion toward/away than with motion cutting across the frontal plane.

Second, it is more difficult to judge motion of the object ahead if we are moving as well. The visual system must then disentangle to the retinal image motion caused by the movement of the object ahead from the retinal image motion caused by our own motion. This is far more complex a problem than judging motion of an object when we are stationary.

Third, normal expectation is that cars do not stop in the middle of the road. Reaction time, as explained above, is much slower when people encounter a low probability or unexpected event.

**Visibility**

Reaction time increases in poor visibility. Low contrast, peripheral viewing, bad weather, etc. slow response. Moreover, virtually all reaction time studies have been performed in high light, photopic visibility conditions. At night in urban areas, vision operates in the...
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 Driver Reaction Time

mesopic range, so there is mixed rod-cone activation. The few existing data suggest that reaction time sharply increases as the rods become the primary photoreceptor.

On the other hand, there are some situations in which response is faster in low light. For example, light emitting sources, such as rail-highway crossing signals or brake lights, produce better reaction times at night. With no sun or skylight to reflect off of the fixture and with a darker background, the signal has higher contrast and greater visibility.

Response Complexity

More complex muscular responses take longer. For example, braking requires lifting the foot from the accelerator, moving laterally to the brake pedal and then depressing. This is far more complex than turning the steering wheel. While there have been relatively few studies of steering reaction time, they find steering to be 0.15 to 0.3 second faster. Perception times are presumably the same, but assuming the hands are on the steering wheel, the movement required to turn a wheel is performed much faster than that required to move the foot from accelerator to brake pedal.

Reaction Time At Night

The same factors affecting reaction day in daylight conditions operate at night. Light level per se, has little effect on reaction time. For example, one study found that under scotopic vision, decreasing light levels by a factor of ten only slowed reaction time by 20-25 msec (1/40 to 1/50 second.)

However, there are new variables at work. For example, a light which might have low contrast and low conspicuity during the day because background is bright could become highly conspicuous at night and produce faster reaction times. Always remember that contrast is what matters: people see contrast, not light.

Case Study

The ensuing example is taken from a real case. It demonstrates how “standard” reaction time estimates must be adjusted to situation-specific conditions.

A 73 year old male driver, Mr. Smith, broad-sided another car crossing his path from a side road in good daylight visibility. Mr. Smith stated that he had approached the intersection cautiously because he had had several close calls with vehicles cutting across that intersection. He also stated that the possible danger caused him to drive more cautiously than normal as he approached the intersection. This was confirmed by forensic reconstruction showing that he was traveling well under the speed limit at the time of the accident. Moreover, Mr. Smith stated that he approached the intersection with his foot hovering over the brake pedal. A hundred feet before the intersection he saw a car from the side road. What is his expected reaction time?

A typical reaction time for responding to this type of lane incursion would be 1.5 seconds. However, the circumstances in this example alter the “typical value.”

First, expectation has a large effect on reaction time. Since Mr. Smith was aware of previous accidents at the intersection and had experienced close calls himself. Given Mr. Smith’s heightened alertness and his expectation that a dangerous situation might arise, a more reasonable reaction time estimate would be 1.0-1.1 seconds, not the 1.5 of a totally surprised driver.

Next, Mr. Smith had his foot was on the brake as he approached the intersection. The time required to move foot from the accelerator to the brake pedal is about 0.2 seconds. Since Mr. Smith already had his foot at the brake pedal, the normal braking movement time would be reduced significantly. A conservative estimate would be that the normal 0.2 second movement time would be cut at least half to 0.1 second. This reduces expected reaction time to 0.9-1.0 second.

Lastly, Mr. Smith was 73, and aging slows reaction time 0.2 to 0.3 seconds. This would increase expected reaction times to a range of 1.1-1.3 seconds.

Complex Reaction Times

In his classic “On The Speed Of Mental Processes,” Donders (1868) proposed a classification scheme that experts still use to distinguish among three different types of reaction time, simple (Type A) and more complex situations, choice (Type B) and recognition (Type C). While most of the variables affect simple and complex types in the same way, choice and recognition reaction times each add new factors that must be also be considered.

Choice reaction time (Type B) occurs when there are multiple possible signals, each requiring a different response. The responder must choose which signal was present, and then make the response appropriate for that light. This requires two processes not present in simple reaction time: 1) signal discrimination - decide which signal occurred and 2) response selection - choose the response based on which signal occurred. In the classic laboratory procedure, a person sits with his/her fingers on 2 different telegraph key and waits for one of 2 different lights to flash. When a signal occurs, s/he releases the telegraph key assigned to that signal. Reaction time is again the time between light onset (signal) and release of the key (response.)

With multiple signals, the responder cannot simply detect the signal but must also recognize which signal occurred and then mentally program the correct response. These extra mental operations slow reaction. Choice reaction times slow as the number of possible signals increases according to the equation,

\[ RT = a + b \log2N \]

where a and b are constants and N is the number of alternatives. The equation has two terms. The a constant is simply the “irreducible minimum” reaction time in the situation. (The variable part is called “the reducible margin.”) The relationship between RT and the number of alternatives is nonlinear - doubling the number of alternatives does not increase RT by a factor of 2 but rather by the log of the number of possible signals.

In Type C, or “recognition,” reaction time, there are multiple possible signals but only one response. In this case, the responder makes the response when one stimulus occurs but withholds response when the other(s) appears. The standard lab version of this paradigm has a subject with his/her fingers on 1 telegraph key and waits for one of x different lights to flash. When the signal light occurs, s/he releases the telegraph. If one of the nonsignal lights occurs, then the subject must make no response. This is sometimes called the “go, no-go” paradigm. Reaction times are invariably longer than for simple reaction time. A good example would occur when police officer confronts a “suspect.” The officer sees something in the suspect’s hand and must make a go (shoot) or no-go (don’t shoot) decision.

Final Comments

This article has focused on driver reaction times. While the basic principals generalize to estimating other reaction times, the exact numbers do not. Each type of reaction time has its own peculiarities that must be examined. For example, reaction time for a shooter who is tracking a target might be 0.3 second, but even this would be a function of trigger pull weight.
Bruno Raises The Bar!
(Ok, ok, we’re raising the platform to the bar)

The New ASL-250HTP Out-Sider® Meridian™ for powerchairs with exclusive “Hold-Tite Arm” and Adjustable Platform.

Another Innovation from the Leader.
By Carrie Monagle, MSOT, OTR, CDRS

When I became an occupational therapist, I never thought I would find myself with a sub-specialty in driver rehabilitation...but it found me. When I became a certified driver rehab specialist (CDRS), I never thought I would find myself coordinating a full-time driver rehab program for a rehabilitation hospital...but it found me. And, I definitely never thought I would find myself as a co-investigator of a National Institute of Health (NIH) grant for a major university entitled “Examining Virtual Reality Driving in Traumatic Brain Injury”...but somehow it found me! And, I am so glad it did!

One day two professors in the department of psychology at Drexel University in Philadelphia, Pennsylvania were casually chatting about their research projects. One of the professors, a neuropsychologist, mentioned that she had received a grant to explore virtual reality (VR) as a methodology to help to evaluate driving capacity for persons with neurological compromise as a result of traumatic brain injury (TBI). The goal of this work being to increase the affordability and usability of VR driving simulation to improve the rehabilitation of individuals with TBI. She explained to her colleague that part of the study was very innovative, as it would compare VR performance to actual on-road driving using an instrumented vehicle. One of her challenges, she continued to explain, was that she didn’t know where she might find someone who would actually help collect the data by driving with the subjects on the road in the vehicle. The second professor (who happened to be a friend of mine from college) said excitedly, “I have a friend who might be crazy enough to do that -she does it for a living for a hospital.”

After talking to the neuropsychologist and principal investigator, Maria T. Schultheis, Ph.D, I was hooked. I was also very apprehensive. I wondered what I really had to offer this research team other than a very high tolerance for bad driving behavior...I would definitely be less likely to hit the passenger brake in the instrumented vehicle fewer times than a poor graduate student would! In addition to Maria, the team consisted of persons with Ph.D’s in engineering and computer science...these people were literally building a vehicle with a computer and cameras to record data on eye movement, stopping distance and braking, steering techniques, lane placement and the like. Another group was building a VR simulator. Oth-
ers are statisticians analyzing the data and creating algorithms...what would be my contribution? It was soon clear to me...I had to design a route that entailed the specifications they wanted to include – making sure it was safe, yet challenging. After meeting with the research team, I realized that I offered unique knowledge about what types of errors and challenges might be expected from a driver with neurological compromise. My experience and knowledge helped to make a list of data come to life in a very practical and real way. I quickly realized that I did not need a Ph.D to be an important member of this team. Like I said, I was hooked!

I must admit that the role of VR in this study is not what hooked me. I have an open mind about VR becoming a tool for driver rehab in the future, but I also have reservations. VR has been around for a little while in the world of transportation engineering, but it is relatively new to the field of rehabilitation. In talking with Maria, the principal investigator, I realized that she appreciates that the on-road portion or “behind the wheel evaluation” is still the gold standard for making our best recommendations about someone’s safety and potential behind the wheel. She sees VR as a screening tool – part of the rehabilitation process – not as a replacement for a CDRS. On the other hand, as a clinicians, we also recognize the need for clinically relevant and empirically based measures to support and validate what is done, and I knew this research could provide the driver rehab profession with some really interesting and helpful data to help us do our job better.

This study is seeking licensed drivers, 18-55 years of age, who sustained a moderate to severe TBI and are at least one-year post injury. We are also recruiting an equal number of healthy subjects. The subjects participate in three visits to Drexel University for which they are compensated ($120.00). The first visit includes 1.) A visual exam (OPTEC and contrast sensitivity) 2.) A cognitive exam including such assessments as: WAIS-III Digit Span, Trails A & B, Complex Figure Recall, Tower of London, STROOP, Complex Figure Delay, WAIS-Block, SDMT, MVPT, UFOV, Clock Draw and 3.) A preliminary virtual reality drive (to make sure using the VR doesn’t make them nauseous). Another visit includes the virtual reality driving evaluation without distractions and then again with distractions (i.e. counting coins). A third session is for the on-road driving evaluation without distractions and with distractions. After both the VR drive and the actual on-road drive the subject is given a questionnaire to self-assess performance and stress felt during the drive.

Some of the data we hope to collect is as follows:
1. Which cognitive assessments will correlate with poor driving performance?
2. How will TBI and healthy VR driving performance compare? How much does performance vary when distractions are presented?
3. How will TBI and healthy ON-ROAD driving performance compare? How much does performance vary when distractions are presented?
4. Does the VR driving performance correlate to actual ON-ROAD performance – with and without distractions? Can it be a predictive tool?
5. How variable is the insight of a TBI driver versus a healthy driver to road stress?

If you have any questions or comments about this study or maybe live close to the greater Philadelphia region and know of a population of persons who might be interested in participating – please feel free to contact me at 609-896-9500 x 2494 or at cmonagle@slrc.org. You can also contact the principal investigator, Maria T. Schultheis, Ph.D at 215-895-6105 or at schultheis@drexel.edu. Additional information about this type of driving research is also available at http://www.pages.drexel.edu/~sg94g745/.

It will be a few more years before our study is complete but maybe you will see us at ADED presenting our findings? Probably...because as I mentioned already, I’m hooked! If you are thinking about getting involved in research, go for it! I think you will be pleasantly surprised at how much you have to offer and how much it will enrich your professional experience.
It’s Scholarship Time

It’s time to apply for a scholarship for the 2009 ADED conference. Many members work for nonprofit institutions or are self-employed; here is your opportunity for financial assistance for the annual conference or workshops. Following is an overview of the three types of scholarships available. Recipients of scholarships are requested to attend the ADED banquet as well as be available for pictures for the News Brake.

ADA (Adaptive Driving Alliance) is supportive of evaluation and training of clients by a Certified Driver Rehabilitation Specialist (CDRS). Toward that end the ADA has committed funds for the past seven years to support members’ attendance at the ADED annual conference. Multiple scholarships are offered up to $1000 of expenses (travel, registration, hotel...). The goal is to increase the number of CDRSs in areas serviced by ADA members.

In 2008 Crescent Industries established a new scholarship fund to support two members attendance at the ADED annual conference. This scholarship is open to both experienced and new members who would otherwise not be able to afford attendance at the ADED conference. Each scholarship is $1200.

Our organization has an ADED Volunteer Scholarship fund. This scholarship was established to support member’s registration fee for the ADED two-day educational courses. These courses are held throughout the year as well as prior to the annual conference. Money for this scholarship comes from (1) donations in the memory of an ADED member (2) proceeds from the yearly silent auction (3) various fund raisers throughout the year. Monetary donations as well as silent auction items are always appreciated.

Applications are available on line or contact the ADED Executive Office:

www.aded.net
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2425 n. Center St. #369
Hickory, NC 28601

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Manufacturers Corner

FREEDOM LIFT CORP. OPERATES UNDER NEW NAME & LOGO

Freedom Lift Corporation will now be doing business under the name Freedom Sciences LLC to emphasize the company's focus on innovative uses of new technology to improve the lives of people who need mobility assistance. The announcement was made by Tom Panzarilla, Sr., CEO and president of Freedom Sciences.

To reflect this change, a new company logo has also been developed. The new logo is designed to communicate that Freedom Sciences is an American company dedicated to utilizing American engineering and innovation. “Our company is focused on improving the quality of life for all humans through innovative and creative application of technology.”

stated Kenen Crawford, Freedom Sciences’ executive vice president of marketing. “We felt we needed a corporate name and logo that truly reflected those values.”

Freedom Sciences manufactures precision quality mobility solutions including the Freedom Seat line of fully articulating automotive seating systems; the Freedom Lift - a full line of scooter and power chair lifts; the Dock 'N' Lock wheelchair/power chair securement system; and the ATRS (Automated Transportation and Retrieval System).

“Under the Freedom Sciences corporate name, we will continue to market our Freedom Seat, Dock 'N Lock, ATRS, and the Freedom Lift brand names moving forward, as these product lines have international brand name recognition,” continues Crawford.

The company is headquartered in Green Lane, Pennsylvania and markets its products through an international dealer network supported by several strategically located warehouses. More information can be obtained online at www.freedom-sciences.com and www.freedom-lift.com or by calling 800-755-2856.

HOWELL VENTURES LTD., SURE GRIP HAND CONTROLS

Howell Ventures Ltd., Sure Grip hand controls, announced today that manual hand controls users; adaptive equipment installers and Driving Rehabilitation Specialists now have access to a safer vehicle where hand controls are being used.

At the 2008 NMEDA Conference, John Kazanchy of Specialty Vehicle Consulting was awarded the Adaptive Driving Alliance Award for Innovation for his design of an interlock or lock out system for hand controls and left foot accelerators. Sure Grip President, Keith Howell, and Kazanchy immediately went to work at integrating the award winning system into push rock style of hand control. The fruits of their combined efforts have translated into the only manual hand control now available with an electronic safety lock out system, making this dramatically safer than any other styles currently available.

Howell and Kazanchy measured carefully the benefits that lock out would provide all stake holders in our industry. For all parties, electronic lock out translates into an incredibly inexpensive insurance against unwanted usage from untrained drivers such as valets, mechanics, family members, and friends or co-workers. The intent was to help protect loved ones and the user’s vehicle investment.

For dealers there maybe tangible benefits from their insurer via fewer unfortunate situations involving hand control operated vehicles both on site and on the road. There may also be a reasonable expectation of reduced insurance costs as a result of fewer litigation proceedings. Dealer’s employees will also be less likely to find themselves in an unfortunate situation when a vehicle they are working on or in has a lock out system installed.

For the Driving Rehabilitation Specialist, hand controls may not need to be removed from their vehicles when training or evaluating clients on other types of equipment. The Rehabilitation Specialist will no longer need to be concerned with inadvertent use or contact by their clients or other vehicle users.

The lock out system activates automatically when the vehicle ignition is shut off. Upon vehicle start up the lock out system does not allow for accelerator function until the lock out system is intentionally deactivated via an electronic switch mounted on the dash. The vehicle can be driven while the hand control is locked out.

Michael Dresdner, owner, of Handicapped Driver Services said “Any initiative that improves the safety of our client and the roadways in general serves to potentially reduce our exposure to litigation would be recommended”. Dresdner went on to say that “dealers will have no choice but to embrace Sure Grip’s lock out concept”.

Howell and Kazanchy plan to continue to be proactive in their collaboration of lock out based driving aids. Their idea of reducing exposure to dealers and making drivers safer is the single greatest issue in today’s vehicle modification industry.

For more information: www.suregrip-hvl.com

Future ADED Conference Sites
2009
Lexington, KY
2010
Kansas City, MO

Winter 2009
News Brake
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The calendar of upcoming events is provided as a service to ADED members. News Brake does not confirm the accuracy of the information provided. Please verify dates and locations with the organizations listed.

* * * * FEBRUARY * * * *
February, 2009 Daytona Beach, Florida:
NMEDA Conference
Contact: www.nmeda.org or 800-833-0427

* * * * MARCH * * * *
March 11-14, 2009 Orlando, Florida:
ISS 25th International Seating Symposium
Contact: www.iss.pitt.edu

* * * * APRIL * * * *
April 23-26, 2009 Houston, Texas
AOTA Annual Conference and Expo
Contact: www.aota.org

* * * * JUNE * * * *
June 23-27, 2009 New Orleans, Louisiana
RESNA Conference
Contact: www.resna.org or (703) 524-6686

* * * * AUGUST * * * *
August 7-11, 2009 Lexington, Kentucky:
ADED Annual Conference
Contact: www.aded.net

To have your event information included in the Mark Your Calendar section, please provide the information to:
Amy Lane, Editor, News Brake
laneak@upmc.edu
(412) 864-3068

Future ADED Conference Sites

2009 Lexington, KY
2010 Kansas City, MO
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MEMBERSHIP RENEWAL

2009 - ADED MEMBERSHIP RENEWAL INFORMATION FORM

ADED membership runs from January 1 through December 31.

Membership Categories are as follows:

Individual (new member): $120
Individuals involved in provision, implementation, research or administration of driver rehabilitation services (driver evaluation, behind the wheel training and/or transportation evaluations).

Individual (renewal): $95
Individuals who have been members for the current year.

Mobility Equipment Dealer: $250
Business involved in installation, services, and/or rental for individuals with disabilities.

Facility: $250 (1-3 individuals)
$500 (4-6 individuals)
$750 (7-10 individuals)
Business or agency involved in the provision, implementation or administration of driver rehabilitation services (driver screening, evaluation, behind the wheel training and/or transportation evaluations). This category includes hospitals, rehabilitation centers, driving schools, driver licensing agencies, etc. Individuals must be listed on facility’s membership so their status is maintained for eligibility for public office.

Corporate: $500
Business involved in manufacturing and distributing products used by driver rehabilitation specialists or individuals with disabilities. You will also receive with your membership: (1) ADED’s extensive Resource Manual, (2) NEWSBRAKE newsletter, (3) your personal website access, (4) Discounted conference rates, and (5) Discounted Professional ADED course costs.

NOTE: Please completely fill in this form.

Name ____________________________ Organization ____________________________
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City/State/Prov./Zip ____________________________ Fax No. ____________________________
E-mail ____________________________ □ Check Enclosed □ VISA □ MasterCard # __________ Exp. Date __________

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(check primary)
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□ Occupational Therapy
□ Vocational Rehabilitation
□ Rehab Engineering
□ Equipment Dealer
□ Equipment Manufacturer
□ Kinesiotherapy
□ Other ____________________________

Program Services
(check all that apply)
□ Clinical
□ Classroom
□ Driving Range
□ Simulator
□ Car
□ Van
□ Van Modifications
□ Other ____________________________

COMMENTS? Please use the back of this form to pass on ideas, suggestions or comments to the ADED board.

THANK YOU FOR YOUR RENEWAL!!!

Checks must be in U.S. Funds made payable to ADED.

Return membership renewal and this data update to:
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The new BL-7317 couples the proven reliability of the "Original" EZ Lock system with an added level of functionality and durability.

**DURABILITY** - The BL-7317's rugged component based design is unsurpassed in strength and holding power. Hardened steel reinforcements ensure a long service life.

**RELIABLE CONTROLS** - Our reliable and accurate electronics constantly monitor the security status of your wheelchair in the docking base, and our exclusive ADP (Accidental Disconnect Protection) feature ensures a reliable and accurate status display; even if the wiring harness should become detached.

For EZ Lock driver applications, the BL-7317 may also be equipped with the optional Remote Manual Release for emergency use in the event of vehicle power loss.

**NEW LOOK** - The new BL-7317 docking base has a sleek exterior design that easily compliments today's popular vehicle interior colors. In addition to the great new look, the "hammered" powder-coat finish is extremely durable and is further protected by tough nylon toe-ties.

**TESTING** - No other docking system has been tested as extensively as the EZ Lock. Not only has the EZ Lock been repeatedly "system tested" by the top University Safety Labs, we take the further precaution of testing specific wheelchair models for compatibility and structural integrity. Nothing is left to chance when the safety of our customers is at stake.

**REAL LIFE SUCCESS** - More impressive than the scientific testing conducted in the laboratory, is the extensive archive of positive customer testimonials maintained by EZ Lock. On our website at www.ezlock.net, you can read the accounts of numerous EZ Lock users attesting to the effectiveness of our system in real-life emergencies.
What's New at Your Place?

In order to keep updated on what is going on with ADED members across the country, I need your help. Take a minute and fill out this form, fold it and mail it.

- Been Promoted?
- Started a new program or expanded an existing program?
- Presented at a workshop or conference?
- Doing a research project?
- Ideas for an article?
- Other: ________________________________

Details: ________________________________________________

_____________________________________________________________________

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_____________________________________________________________________

Look in the next newsletter for your item.

Name: ____________________________________________

Institution: _______________________________________

Phone: ___________________________________________

NEWSLETTER DEADLINE:

The next deadline is March 15, 2009. Please send any articles, pictures or news information to:

Amy Lane, OTR/L CDRS
3600 Forbes Avenue @ Meyran
Forbes Tower Suite 3010
Pittsburgh, PA 15213

or email to laneak@upmc.edu
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