



Easing American Gridlock

By Joe McMahon, President

U.S. News and World Report recently featured, as its lead article, the effect of traffic on life in America. Documented was the increasing medical, environmental, and social ills caused by growing traffic congestion.



Why the increase in negativity?

Unprecedented prosperity has produced rapid suburbanization and increased auto usage. The resulting 236 percent increase in congestion (motorist delays) has reversed a decades long decline in transit usage. In the last five years, transit use has increased 21 percent as compared to an 11 percent increase in auto use.

Is America's love affair with the automobile about to end in divorce over increased congestion? Not really. More than 95 percent of all personal transportation travel is and will continue to be via auto. Evidence of continued auto dependence is found in the recent gas price spikes, which have created no measurable reduction in auto use.

How do we curb auto dependence?

The answers to congestion are multi-faceted and must be pursued aggressively. It is essential to continue to address the needs of our deteriorating infrastructure. This is being done by constructing/reconstructing roads to catch up with the doubling of vehicle miles of travel over the past two decades. Design work is now resulting in construction projects at a recurring rate.

Also needed is an increased planning and development emphasis on the relationship between land use and transportation through "smart growth" initiatives. For example, linking complementary land uses at transportation nodes can produce beneficial results, including increased transit usage, reduced trip lengths, and even influencing whether a vehicle trip is necessary at all.

Smarter transportation systems, through emerging intelligent transportation technologies, will also make more effective use of limited transportation capacity. Initiatives like congestion pricing will spread daily travel peaks, which have already

(continued on back page)

National News

Context Sensitive Design: Creating Transportation Improvements That Fit Your Community

By Paul A. Williams, Senior Project Engineer/Project Manager

The Federal Highway Administration will publish national guidelines later this year including draft manuals for context sensitive design. The guidelines cite the experience of successful pilot programs in Connecticut, Kentucky, Maryland, Minnesota, and Utah. More specifically, the Maryland State Highway Administration aimed to "think beyond the pavement" and learned that economic redevelopment often occurs after creating flexibly designed highway improvement projects.

Although highway and bridge design engineers have been using context sensitive design in their improvement projects, the phrase *context sensitive design* has only recently evolved. The American Association of State Highway and Transportation Officials defines context sensitive design as "melding the design process for highway and bridge projects with consideration of the community values and environmental resources of the project area." Context sensitive design is a quality of life issue that supports environmental and community initiatives. Examples include Pennsylvania's Sound Land Use and Growing Greener programs.

How it is done

Context sensitive design can be achieved through creativity, perspective, process, early public involvement, identification of constraints, and design flexibility. Context sensitive design aims to balance safety, mobility, and transportation needs while

preserving scenic, aesthetic, historic, cultural, environmental, and community values.

Other states will be drafting context sensitive design manuals that will become systematic in the design process. Meanwhile, there are tools available today to implement context sensitive design, including AASHTO Design Flexibility Case Study Report and Green Book Guidelines, FHWA Flexibility in Highway Design, and individual state DOT design manuals.

Pennsylvania's Governor Tom Ridge's Executive Order proclaimed that designing transportation improvements in harmony with the community is the right thing to do: A project completed using context sensitive design adds lasting value to the community.

Context sensitive design solutions include:

- Plantings
- Lighting
- Interpretive sites
- Sidewalks
- Signs
- Street furniture
- Decorative ornaments
- Drainage improvements

Our Services:

- Transportation Planning
- Traffic Impact Studies
- Traffic Signal Design
- Survey
- Highway & Intersection Design
- Pavement Design
- Highway Access Permitting
- Engineering Services During Construction

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Mid-Atlantic Regional News

ITE Annual District Meeting Succeeds in Education & Updates

By Mark Roth, Project Manager

Nearly 200 people attended the Institute of Transportation Engineers (ITE) District 2, 2001 Annual Meeting, held May 10-11 in Newark, Delaware. In addition to 12 informational sessions, vendor displays, facility tours, and social events, ITE President Steven Gayle and Delaware Department of Transportation Secretary Nathan Hayward addressed the attendees.

Presentation topics included E-Z Pass, traffic calming, intermodal projects, congestion and growth management, as well as improvements to Synchro 5 and CORSIM software packages. Major updates to

Synchro included unsignalized analysis as well as the ability to import various graphic images into the Sim Traffic software. CORSIM updates included an easier-to-follow input screen and more descriptive user guides. Both software packages also now offer web-based help screens. Considerable revisions to the Manual on Uniform Traffic Control Devices and the Highway Capacity Manual were also reported.

The annual meeting was considered one of the most successful events in recent years. Participants left with a renewed value of ITE, whose goals

continue in the development of standards and recommended practices, informational reports, handbooks, conferences, sessions for meetings, seminars, issue briefings, awards, ITE position statements, and newsletters.

New Projects — Mid-Atlantic Region

- **Bridge Replacement**
State Route 1014, Lehigh Street, over Coplay Creek, Whitehall Township, Lehigh County, for Pennsylvania DOT
- **Traffic Signals Modernization**
along Passyunk Avenue, for the City of Philadelphia, PA

New England Regional News

McMahon Adopts Environmental Justice in Project Planning

By Mike Clements,
Project Manager

Effective transportation decision-making requires substantial understanding of the unique needs of different socioeconomic groups. For example, new roadways and transportation facilities cutting through a community can often create a physical barrier where none had previously existed. The physical separation of socioeconomic groups can have detrimental economic impacts.

The transportation planning process successfully incorporates environ-



Photo provided by Walkable Communities

mental justice when a census identifies the needs of minority and low-income populations and the benefits and burdens of transportation investments are fairly distributed. Public involvement programs reach out to the

affected communities in developing “transportation projects that fit harmoniously within their communities without sacrificing safety and mobility.” When transportation

(continued on next page)

I-95 Construction to Pay Off in Future

By John DePalma, Associate & General Manager, Florida Region

Last year the Florida Department of Transportation accelerated its plans for roadway and bridge improvement projects, including I-95 in Palm Beach County. I-95's Okeechobee Interchange is under construction, as well as the HOV (High Occupancy Vehicle) lanes construction project. The project study area extends from the Linton Boulevard area, north to Palm Beach Gardens, and will ultimately extend all the way to Indiantown Road in Jupiter, Florida, over the next five years.

Speeding Motorists Add to Traffic Problems on Alternate Routes

Typical traffic congestion associated with construction patterns has resulted, especially with the high volumes of traffic which utilize I-95 daily. There are several switchbacks and lane shifts in this section of construction, and at night and other off peak periods, lane and ramp closures occur. While motorists should be slowing down in these areas, speeding still presents a safety hazard to other drivers and construction workers. The Florida Highway Patrol has tried several methods to reduce this problem but has not seen favorable results.

Florida motorists who try to take alternate routes will probably hit traffic as well. The nearest and most efficient alternative north-south roadway is the Florida Turnpike, portions of which are also under construction. Similar to the I-95 widening project, there is currently a widening project under-



way from Glades Road to Atlantic Avenue, with plans to widen the roadway north to the Indiantown Road exit in the next 5-10 years.

How to Plan a Trip and Avoid Traffic

For quick information on traffic conditions use the state website www.smartraveler.com or call toll-free 866.914.3838 in Palm Beach and Broward Counties to get up-to-the-minute news for your commute. SunGuide,

a \$4 million part of Florida's long-range Intelligent Transportation System, has started an interactive telephone line and an Internet site that provides information on accidents and construction-related delays on I-95 and other roadways. So before taking a trip, take the time to learn of the delays and alter the route or travel time if possible. When all of the construction is completed in the next five years or so, I-95 will be a safer, more efficient corridor to travel.

McMahon Adopts Environmental Justice in Project Planning *(continued from previous page)*

officials apply environmental justice initiatives, they create necessary systems, services, and solutions for the public. Environmental justice implies that federally funded projects will not have disproportionately high and adverse effects on a particular social, ethnic, or economic group. The EPA defines the environmental justice movement, Environmental Equity, as the equal treatment of all individuals, groups, or communities regardless of race, ethnicity, or economic status, from environmental hazards.

Environmental Justice at the State Level

McMahon recently prepared Environmental Justice (EJ) evaluations for two transit-related federally-funded projects in New England that deal specifically with Intermodal Transportation Centers (ITC). The ITC proposed in Pittsfield, Massachusetts required an Environmental Assessment (EA) as part of the NEPA process to evaluate environmental justice. The ITC parking garage feasibility study proposed for Brockton, Massachusetts required a "notice of project change" and also had an

EJ evaluation as part of its scope. Continuing public meetings have been planned to help the transportation agencies understand community needs and reduce project impact.

In the last decade, environmental justice has become a formidable force in the protection and development of urban and rural environments. Recognizing its importance, the Massachusetts Executive Office of Environmental Affairs Environmental Justice Policy provides specific parameters for implementation, with the goal of reducing environmental disparities and overall pollution.

New Projects — Florida Region

- **3R Design: Corridor System Improvements** on State Route 858 Hallendale Beach Boulevard and another section of Hallendale Beach Boulevard at SR 5/US 1 for Florida DOT
- **Traffic Calming Services** continued for the City of Lighthouse Point's Vision/Enhancement and Traffic Calming Project
- **Impact studies** for multiple clients in Palm Beach and Broward Counties, FL

New Projects — New England Region

- **Parking Lot Design Services** for University of Massachusetts, Boston Campus, MA
- **Traffic Engineering Services** for Clocktower Place, Maynard MA
- **Traffic Engineering Services** for Costco, West Springfield, MA.

We Answer Your Transportation Questions

McMahon in Motion will feature one reader's question on transportation in each issue. Our traffic engineers will answer your question in the following issue. Please submit your questions via e-mail to fortwashington@mcmtrans.com.

Question (from previous issue): The Asphalt Pavement Industry and SUPERPave, the Concrete Industry, have developed High Performance Concrete (HPC). What is HPC and what benefits result from its application?

Answer: HPC is a specialized series of concretes designed to provide several benefits in the construction of concrete structures:

- Ease of placement and consolidation without affecting strength
- Long-term mechanical properties
- Early high strength
- Toughness
- Volume stability
- Longer life in severe environments

HPC can be used for various applications, the most notable, for highway pavements.

Next Question: The United States' most efficient mode of medium-length intercity travel is Amtrak's Acela Express, a moderately high-speed train that travels at speeds up to 150 mph. What high-speed rail line system is among the world's most advanced transportation technologies, allowing speeds to exceed 240 mph?

Look for the answer in our next issue of *McMahon in Motion*.

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Easing American Gridlock *(continued from page 1)*

increased from three to six hours, finance high-occupancy vehicle usage and increase the number of persons carried per highway lane.

Auto Use Reduction Impacts

Fundamental changes in lifestyles will also evolve in the longer-term future. Technology improvements in computers and communications will combine with changing social and cultural patterns to spread travel more evenly throughout the day and eliminate or shorten other trips.

We must use proactively all of the tools at our disposal to solve the traffic congestion problem. Traffic congestion will not be solved by merely adding capacity and using roads more intelligently. A balance of travel modes is essential to future relief, particularly increased public transit usage. Increased focus on multi-use, high-density, complementary land use patterns will reduce trip lengths, increase transit usage, and enhance use of the pedestrian/bicycle modes.

Did you know?

Gasoline Prices May Have Peaked

Representatives of the Energy Information Administration (EIA), testifying before the House Subcommittee on Energy and Air Quality, estimated that without any sudden refinery problems, gasoline prices have reached their peak. Recent statistics indicated that prices for regular gasoline topped off at \$1.75. "Among the underlying causes for the spike in prices are a tight world crude-oil market, the growth in number and types of differing gasoline, and high refinery utilization," reported in the May 18, 2001 AASHTO Journal, Executive Digest.

At the same time, the Texas Transportation Institute recently released its 2001 Urban Mobility Study, which found that the cost of traffic congestion nationwide totaled \$78 billion, representing the cost of 4.5 billion hours of extra travel time and 6.8 billion gallons of fuel wasted while sitting in traffic. With this devastating reality on the rise, the nation anxiously awaits gasoline prices to slide back down, as predicted by the EIA.



Inside This Issue of McMahon in Motion

- Easing American Gridlock — Page 1
- Environmental Justice in Transportation Planning — Page 2
- I-95 Construction to Pay Off in Future — Page 3
- Gasoline Prices May Have Peaked — Page 4