

Embrace Change

By Joe McMahon, P.E., CEO



Last month, I attended a meeting to update a regional long-range transportation plan. I was struck by how,

over the years, the focus has changed in many of the areas in which we work. In the long-range transportation planning process, we have evolved from a very capital-intensive, generally highway-oriented process, to one which makes better operational use of the limited transportation infrastructure and financial resources we have.

One reason McM has remained successful over the years is our ability to adapt to the current environment. For example, McM has been fostering public-private partnerships for over a decade, when some portion of the funding mechanism is lacking, be it Federal, State, or Local. We have seized the opportunity to leverage funds from other creative sources to speed implementation of badly needed projects. Similarly, the use of partnerships in the highway occupancy permitting process, to not only provides access to development projects but also to create programs of related offsite improvements with fast track implementation. This has benefitted everyone, particularly, the traveling public at large.

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Challenges Facing the Engineering Profession

by Rod Plourde, Ph.D., P.E., President

I recently participated on a panel of young and old(er) engineers at a professional engineering society meeting and was asked my opinion on the most urgent challenges facing the engineering profession today. Several challenges came to mind, including ethics, technology, outsourcing of engineering work to “job shops” in other countries, and others. But to me, the two most immediate and persistent challenges are:

1. Reconciling the high number of available, experienced engineers who have been out-placed/down-sized in recent years and the low numbers of new graduate engineers.
2. Finding an acceptable middle ground between generalized and specialized engineering education, and how it will affect professional engineers and their services to the public.

I will address the first of these below and the second in our next *McMahon in Motion*.

Experienced vs. graduate engineers

Since the 1990s, a steady economy has contributed to a greater reliance on technology for greater efficiency in all business sectors, whether manufacturing or services. One major focus of this streamlining has been the outplacement of experienced (older) engineers with higher salaries, who are replaced by younger or graduate engineers with lower salaries. This process has produced two problems: (1) an increase in unemployed engineers with years of experience, but high salaries, in a tight market, and (2) an insufficient supply of young graduate engineers to fill their place. The first problem, lack of employment opportunities, contradicts the second problem, lack of employment candidates! And there are no simple cures for either problem.

Attracting a strong applicant pool

Some professional engineering societies, such as the National Society of Professional Engineers, offer career transition programs for out-placed engineers to help them through downsizing. The programs include career assessment, the “how to’s” of resumé writing and interviews, and networking. But more needs to be done by not only professional societies, but also by the industry itself, perhaps by engineering firms pooling their own human resource assets and financial resources to strengthen or supplement the efforts of professional societies. After all, it’s for our own good, when we need experienced, qualified engineers!

The shortage of graduate engineers is an issue I’ve touched on in a previous article. Many young people, when choosing a career, don’t perceive engineering as exciting, glamorous, or rewarding as other professions, whether law, teaching, information technology, or others. Engineering outreach programs for middle and high school students could change this view. Professional societies could form speaker’s bureaus to put accomplished engineers in contact with young people about engineering careers. So too can experienced engineers and their firms mentor students through college, including internship opportunities, to increase the likelihood that they will stay in engineering.

To our readers who are engineering professionals, I hope that these discussions provide you with some incentives to work within your organization and engineering societies to reduce this engineering employment paradox. To our readers in industry and government, I ask that you support the efforts of our professional organizations to attract and retain the best and the brightest so that the public’s health, safety, and welfare can continue to be served well by our profession.

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Palm Beach County Markets to National Biotech Research Lab

by John DePalma, Associate & General Manager, and Kim D'Aprile, Administrative Assistant



Aerial view of the future site of research institute in Palm Beach County.

Palm Beach County's government is partnering with the Business Development Board of Palm Beach County to equally split the control and jurisdiction over two parcels of land being used

to bring a prominent pharmaceutical and research company to Southeast Florida. Each entity has control of one of the two adjacent tracts of land and they are both currently in the planning process. More than \$500 million combined has been put forth for this project in hopes to lure researchers and biotech business. Its arrival could mean a boost to the economy, creating jobs, and other high-tech businesses.

The City of Palm Beach Gardens is seeking to join the county to provide the necessary services and is seeking to annex the site into the city borders. In the meantime, the surrounding transportation infrastructure is one of the main concerns of the deal. Local businesses are currently being contracted to provide most of the services for this huge opportunity. It is a large-scale example of an interesting partnership being created in Palm Beach County to market itself to a nationally recognized company.

Express Service Added to MBTA's Fitchburg Commuter Rail Line in February

by Danielle Desmarais, E.I.T., Project Engineer

The Massachusetts Bay Transportation Authority (MBTA) selected McMahon Associates to prepare a study of potential service improvements, including expansion of the existing express service, along the Fitchburg Commuter Rail Line. The study will examine three alternative improvement strategies, evaluate the potential ridership benefits of each alternative, and determine the capital investment and operating cost associated with each alternative. The alternative improvement packages will focus on the following broad goals:

- Improve travel time
- Improve passenger comfort
- Improve service reliability
- Meet ridership demands
- Improve overall quality of service

The Fitchburg Line currently serves approximately 19 percent of the total number of commuter rail passenger volume on the north side of

Boston. Of all the MBTA commuter rail lines, including those operating out of North and South Station, the Fitchburg Line services the most stations (17 excluding North Station) and is the longest line at 49.5 miles.

Although the study is still underway, an early recommendation to add morning and afternoon express service was implemented as a direct result of a study of the existing conditions. The additional express service from Central Massachusetts to North Station benefits the long-distance commuters along the Fitchburg Line with travel times that have been reduced by as much as 17 minutes to Boston.

Other service improvements recommended as a result of a study of available opportunities and constraints along the line include, improving station amenities, installation of continuously welded rail, signal and interlocking upgrades, and new rolling stock.

Elm Street Bill Provides Funding for Neighborhood Revitalization in PA

by Christopher J. Williams, P.E., Associate & Senior Project Manager

Now, municipalities and redevelopment agencies can tap McMahon Associates for the design and implementation of streetscape and traffic calming improvements associated with Pennsylvania's new Elm Street Program, which provides funding for the reinvestment and revitalization of neighborhoods near commercial districts.

As part of Governor Ed Rendell's economic stimulus plan, \$2 billion has been earmarked to spur \$6 billion in private economic activity, help the state's economy, and make Pennsylvania a more desirable place for families and businesses. The Elm Street program is designed to complement the redevelopment efforts of existing Main Street programs and commercial districts through five revitalization focus points:

- **Organization:** to build consensus among various groups involved
- **Promotion:** to market the unique characteristics of a neighborhood
- **Design:** to enhance the physical appearance of the neighborhood
- **Neighborhood Restructuring:** to strengthen the quality of housing stock and diversify the type and income level
- **Clean, Green, Safe Activities:** to enhance recreational safety and cleanliness

Activities eligible for state funding also include: building structure and facade improvements, acquisition of properties with historical significance, and public infrastructure improvements, including streets, parking lots, sidewalks, and other pedestrian features, such as landscaping, lighting, and street furniture.



PA Governor Ed Rendell signed the Elm Street Bill in February to revitalize neighborhoods.

Entities such as municipalities, redevelopment authorities, nonprofit Main Street and economic development organizations, and neighborhood and business improvement districts may apply for financial assistance from the PA Department of Community and Economic Development (DCED). Grant assistance includes:

- **Planning Grants** to assist a community in developing a program, preferably a five-year strategic plan.
- **Operational Grants** for the employment of an Elm Street Manager.
- **Residential Reinvestment Grants** to carry out physical improvements within an established residential neighborhood.

Each grant requires a 10 percent match from local sources. *(continued on page 4)*

Embrace Change

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Creativity needed to combat flagging funding

With the reauthorization of the TEA-21 Federal Transportation legislation, it is clear that funding shortfalls will continue at all levels. The regional transportation plan update referenced earlier had a \$300 million dollar deficit on the billion dollar program in the last plan. The deficit was expected to greatly increase in the current planning process.

It's clear to me that we have to continue to think out of the box. Imaginative and economical ways to make more efficient use of our transportation systems are key. We have to increase productivity.

Particularly, we need to look for opportunities to integrate land-use development with sound transportation strategies that recognize all travel modes. Pedestrian/bicycle-friendly design environments must be encouraged. Mixed-use development, where people can live, work, and shop in close proximity, will reduce trip lengths and trip making.

Telecommuting, job sharing, time shifting, and other strategies must be exploited. Among the other tools that are becoming increasingly important are upgraded traffic signal systems with video detection replacing difficult-to-maintain loop detectors, improved incident management, convenient local community-sized bus systems, and a host of Intelligent Transportation System applications.

The era of easy solutions, or building ourselves out of congestion, ended long ago. Now, the bar is being raised yet again, requiring vision, ingenuity, cooperation, and creativity. For those of us who embrace change, the opportunities have been enhanced greatly by using increased planning and design dollars to leverage the best transportation benefit for limited, leveraged capital investment monies.

New Projects

NEW ENGLAND

- Commuter Parking Garage Feasibility Study, Town of Ayer, MA
- Traffic Impact Study of Walgreens for Realm Realty, Nashua, NH
- Traffic Impact Study of Hayden Commons residential development for Capital Group Properties, Hopkinton, MA

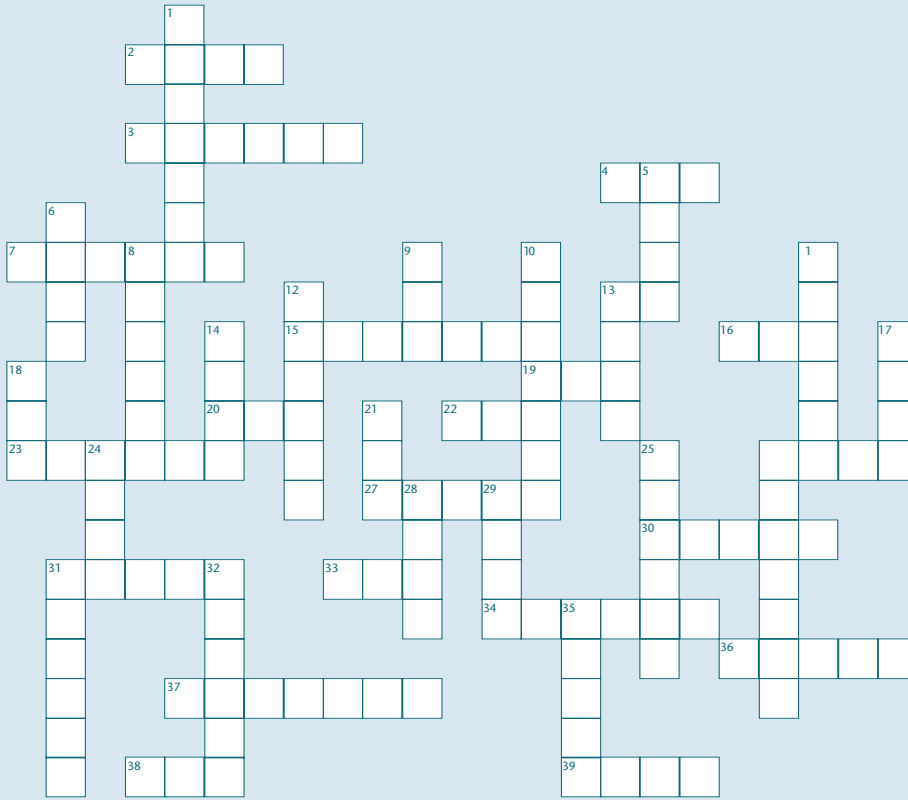
FLORIDA

- Transportation Engineering Services for a Scientific Research Facility, Palm Beach Gardens, FL
- Safety Study Contract for Florida Department of Transportation, District 6, Miami, FL
- Traffic Study of Heitman Road, City of Fort Myers, FL

MID-ATLANTIC

- Traffic Signal Improvements Project along Passyunk Avenue, City of Philadelphia, PA
- Act 209 Roadway Sufficiency Analysis and Transportation Capital Improvements Plan, Douglas Township, PA
- Traffic Impact Studies for Wal-Mart Stores, Montoursville and Wyomissing, PA

On the Road Again



ACROSS

- 2. Number of vehicles on roadway
- 4. Access to highway
- 7. American Society of Highway Engineers
- 8. Layman's term for congestion
- 12. Turning movement count
- 13. Certification for a planner
- 16. Professional Engineer, briefly
- 17. Bus or train, eg.
- 18. Another name for traffic light
- 20. Place to leave your car
- 21. They all lead to Rome
- 22. Get out
- 24. Collected before analysis
- 26. Highway units
- 27. Cover the road

- 30. Right-of-Way
 - 31. One result of a traffic jam
 - 35. Effect on infrastructure
 - 38. Roundabout, Chicane, Speed Hump, broadly
 - 39. Look over
- ## DOWN
- 1. Carpool lane
 - 3. Our company name, briefly
 - 5. Always a problem downtown
 - 6. Travel to work
 - 9. _____ Management
 - 10. Tires on a car
 - 11. To assert one's rights
 - 14. In the middle, literally
 - 15. On the _____ where you live

- 17. To travel to or from is one ____
- 19. Area on side of road for drainage
- 23. Travel above?
- 25. Another name for a car, abbr
- 28. Map, from above
- 29. Institute of Transportation Engineers
- 31. Governing agency for transportation in US
- 32. Actor from Planes, Trains, and Automobiles
- 33. Type of traffic control device
- 34. MPH
- 36. Engineering software
- 37. Roadway report card?
- 38. At the edge of pavement

We Answer Your Transportation Questions

McMahon in Motion features 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 email to fortwashington@mcmtrans.com.

Question: (from previous issue) _____

What changes in traffic control devices will the FHWA soon implement to help older drivers, pedestrians, bicyclists, and workers?

Answer: _____

Enhancements to traffic control devices will include larger font sizes on street signs and pavement markings to help older drivers at intersections. Pedestrians will now use animated eyes (electronic signs that serve as a reminder to look both ways), countdown signals that display how much time remains to cross the street safely, and crosswalk markings to draw a driver's attention to pedestrian activity.

Mid-Atlantic News

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McMahon recently developed a formal Neighborhood Traffic Calming Program for municipalities to evaluate and implement traffic calming measures objectively. For more information, contact McMahon Associates or visit the DCED online at www.inventpa.com.

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