

The Center Line

Local Technical Assistance Program

A Service for Local Transportation Agencies

North Dakota Transportation Technology Transfer Center

North Dakota State University

TRAC - WHAT IS IT?

by, Vernon Monger, ND LTAP

TRAC is a hands on education program designed for use in science, math, and social science classes at grades 7 through 12. TRAC stands for Transportation and Civil Engineering. The program was developed by the American Association of State Highway and Transportation Officials (AASHTO). The North Dakota Department of Transportation recently entered into this program with the intent to promote transportation and civil engineering interest to the high school students in the state.

The program consists of eight self-contained education modules featuring professionally developed curricula. The modules are bridge design, city planning, design and construction, environmental engineering, highway safety, magnetic levitation, motion and traffic technology. The units have been designed to be presented with little to no teacher training. The modules have up to five activities, allowing the teacher to tailor the lessons to their needs. Teachers can request only those modules to fit their lesson plans.



TRAC Students from left to right are; Ethan StMichel, Matthew Wangler, Casey Brossart and Chad Haugen

The activities are structured to allow the students to teach themselves relative to problem solving. They seek out and absorb information, formulate new ways of solving problems, and learn that working in transportation is fun, exciting, stimulating, challenging and doable.

The teachers act as facilitators. Math teachers use it at every level from basic algebra to advanced calculus. Physical science classes address friction, gravity, magnetism, motion and structures. Social

science teachers explore the environment, urban planning, history and local government. In general, teachers use TRAC as they wish and when they wish to illustrate concepts that their curriculum requires them to address.

This program was introduced to the schools in 2003-04 school year. Three schools initially started, Rugby, Velva and Ellendale and New Town and Surrey will be added for the 2004-05 school year. David Leer is program manager for the Department of Transportation and coordinates the activities with the local school teachers. Tate Jackson, AASHTO national manager, presents a two day workshop for teachers from the schools implementing the program.

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Routing Slip

Don't file this newsletter too quickly. Read it, photocopy what you want, sign below, and please pass it on — especially to the front-line troops.

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Return to: _____



During the last school year they took four sophomore students to the national TRAC conference in St. George, Utah, where the students were involved in Magnetic Levitation competition.

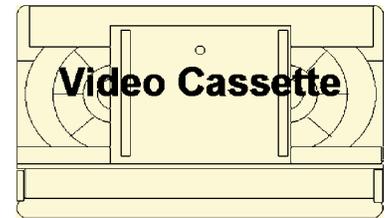
As shown in photo they are Ethan StMichel, Matthew Wangler, Casey Brossart and Chad Haugen. The other photos identify school teachers from Rugby, New Town and Surrey.

Anyone desiring more information on the program may contact Dave Leer (701-328-2552) at the ND Department of Transportation. 

They recently had a training session in Bismarck for new schools as well as the teachers from the schools that started the program last year.

The enthusiasm shown by the Rugby teachers, Jan Hagen and Scott Grachow, indicated how effective this program is. They stated the materials on the modules fit in so well with whatever you are teaching. The lesson plans are all laid out, requiring a minimum of preparation time. The students show such an interest in the subject matter as well. They concluded with the comment "it's fantastic."

Video Library Addition



Check It Out!

The following videotape has recently been added to our videotape library and is now available for loan. Check it out for a couple of weeks at no charge.

"On Again, Off Again: A Guide to Mounting and Dismounting Heavy Equipment" (Tape no. 266, 15 min.)

This tape was produced by the Association of County Commissioners of Oklahoma and distributed by the Public entity Risk Institute and the National Association of County Engineers. This safety training video tape demonstrates the safe and proper way to mount and dismount heavy equipment. The tape discusses important safety considerations and describes proper procedures in a very educational and entertaining manner. 



AGGREGATE FOR GRAVEL ROADS

by, Vernon Monger, NDLTAP

The South Dakota Local Technical Assistance Program (LTAP) staff recently did a study of the effect of size and type of aggregate and construction practices on performance of farm to market roads. The objective was to determine the most cost-effective means of selecting the type of aggregate and the construction method that will yield the least amount of loose gravel and produce a tightly bound strong surface. We would like to share with you some of the results of that study.

The experiment consisted of having two types of aggregate (crushed and screened), two sizes of crushed aggregate (1" and ¾"), and two different compaction methods (wetting with laydown-equipment compaction and laydown with traffic compaction over time).

Significant results were:

1. Crushed aggregate outperformed screened aggregate.
2. Compacted material outperformed gravel laid down without compaction, but with only slight difference.
3. Crushed material remained bound so much better than screened material that the frequency of blade maintenance could be cut in half.

Further analysis led to the recommendation for aggregate surfacing to use the smaller top size (¾") crushed aggregate to reduce loose aggregate on the roadway surface, which is of great importance. This results in less corrugation on the road surface, less aggregate loss to the shoulder, a safer driving surface for the traveling public and most importantly, reduced need for blade maintenance

which is a great cost savings to the department. Another factor in cold climates is reduced aggregate loss in snow plowing operations. The study did indicate that, if a road is to be paved in the future, a 1" crushed aggregate would provide a stronger base.

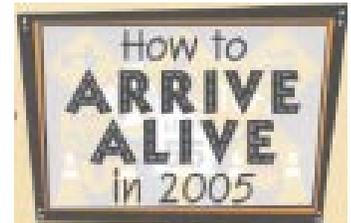
The study resulted in a technical publication entitled Special Bulletin #49: Effect of Size/Type of Aggregate and Construction Practices on Performance of Farm-To-Market Roads. For further information about the study contact the South Dakota LTAP Center at 1-605-688-4185. If you are interested in obtaining a copy of the South Dakota LTAP Special Bulletin #49, contact the NDLTAP center at 1-800-726-4143. //



Northland Chapter of ATSSA "HOW-TO" TRAINING AND EDUCATION WORKSHOP

The Northland Chapter of the American Traffic Safety Services Association (NCATSSA) will again be holding a "How To" training conference March 22 & 23, 2005. The "How To" training conference will hold it's 13th annual event at the Fargo Ramada Plaza Suites and Conference Center. The "How To" is open to city, county, state and federal agencies as well as consulting engineers and contractors.

This two-day conference is intended for field level installers, supervisors, and designers who work in the areas of work zone traffic control, permanent signing, and pavement markings. Members of local road authorities, local and regional utilities, consulting engineers, and contractors who are involved in the selection, inspection, installation, or maintenance of permanent signs, temporary work zone traffic control, or pavement marking will benefit from this conference. //



WORKSHOP TOPICS:

- Work Zone Training
- Crash Testing & NCHRP 350
- Sign Installation Equipment & Materials that Work
- Pavement Markings: Durable & Temporary Installations
- Zipper Dynamic Merge
- Toward Zero Deaths
- Sign Asset Management
- and Many Other Topics

45+ Exhibits & Displays

Contact: Ken Russell
"How To" committee at
3D Specialites, Inc.
(701) 293-8599
ken@dakotafence.com

COMING EVENTS
NDTTTC Events

**Culvert Installation
and Maintenance**

March 1, 2005
Mandan, ND
March 3, 2005
Grafton, ND

**Gravel Road
Maintenance**

March 8, 2005
Carrington, ND
March 9, 2005
Beulah, ND

**Traffic Signing and
Work Zone Control**

March 15, 2005
Stanley, ND
March 16, 2005
La Moure, ND

**Asphalt Pavement
Repair**

March 30, 2005
Bismarck, ND
March 31, 2005
Oakes, ND

**Basic Surveying
Methods**

April 26, 2005
Grand Forks, ND
April 28, 2005
Dickinson, ND

**APWA Click, Listen
& Learn**

[http://www.apwa.net/
/Education/CLL/](http://www.apwa.net/Education/CLL/)

**Get on the Same Page!
Operations Manual to
the Rescue**

February 24, 2005

**Tracking Public Works
Technology: GPS, AVL,
RFID**

March 23, 2005

COMPUTER CORNER



WINTER 2005

by, Russ McDaniel, ND LTAP

There are some new people at County Road Departments in southwestern North Dakota that I would like you to meet. Recently appointed County Road Superintendents in the area include Theo Schalesky at Adams County, Neil Hofland at Bowman County and Allen Heiser at Stark County.

In addition, I want to introduce two other county road department employees with special talents and abilities. They include Chris Hanson with the Adams County Road\Hettinger City Street Department and Todd Miller, an employee with the Stark County Road Department. I spent some time with these gentlemen the week of December 13th.

With dwindling populations in rural North Dakota, I have often wondered where elected officials would find replacements for managerial positions as they are needed. After visiting with these five men, however, I'm satisfied that my concerns were unfounded. All have impressive credentials. All are energetic and all are filled with enthusiasm.

Several years ago I read a book titled "Enthusiasm Makes the Difference". In this book, the writer makes the

case that without enthusiasm, the values of an employee's abilities, work experience and educational credentials are severely diminished. If that is true, these men are well suited for their jobs because they obviously are well qualified along with the added quality of unbridled enthusiasm.

Theo Schalesky is a Hettinger native. After High School, he attended Dickinson State University for two years. He then worked 14 years for Roadway Services Incorporated, a privately owned highway maintenance contractor in Fargo.



Theo Schalesky, Superintendent, Adams County

Before being named the Adams County Road Superintendent, he worked 2½ years for Dean Erickson, the previous road superintendent. He has high praise for Dean and indicated that Dean was a great help in assisting him make the transition to his new position.

In the spring 2003 issue of the Center Line, I wrote an article detailing how the Adams County Road Department and the Hettinger City Street Department had been consolidated as a single work force. That consolidation has worked well for them and is still functioning in that manner.

Theo is a typical county road superintendent in that he does not like to talk about himself but insisted on giving full credit to his employees. He stated, with enthusiasm of course, that “they are a group of very good equipment operators, mechanics, welders etc.” There was no mention of his personal contribution.

There is one item he is not reluctant to talk about and that is the Hettinger High School Wrestling Team. Because roadway maintenance activities are seasonal in nature, the 14 years he worked in Fargo allowed him to return to Hettinger each winter to serve as an assistant high school wrestling coach. He is still serving in that capacity and indicated that his team “is pretty tough”. My sense is that when he describes his team as “pretty tough” that should be interpreted as “they are a powerhouse”.

Chris Hanson is a member of the Adams county\Hettinger city crew and is a prime example of the quality of employees found in rural North Dakota. I have known Chris since 1993, when I first went to Adams County to demonstrate our computer programs. He is an impressive individual with a wide variety of interests and work experience. I was especially impressed with his computer skills.

Chris wears a number of hats but his primary assignment is the city water and waste water operator. Another assignment is maintaining the boiler at the courthouse.

To illustrate his wide range of work experiences, some background information may be in order. He met and married a girl from England while serving there with the US Air Force. When his tour of duty was completed they returned to Hettinger and he went to work for the Adams County Road Department.

In 1997, he and his family returned to England where they lived and worked until returning to Hettinger again in 2002. He has been reemployed with Adams County since August of 2004.

While living in England, he worked for the “Imperial War Museum” restoring World War II airplanes. He indicated that although this job provided a high level of job satisfaction, the pay was not adequate to support a family.

Although Chris still is a young man, he has somehow gained a wealth of knowledge from his experiences and because of that, along with a good attitude and good work habits, he has become an exceptional employee.

He and his wife have two sons, ages 5 and 8, and you should see his face light up when he talks about these two kids.

Adams County and the City of Hettinger are fortunate to have Theo and Chris on their managerial staff.

Neil Hofland is the newly appointed Bowman County Road Superintendent. He was born and raised in Reeder, a small town located approximately 25 miles east of Bowman. He was named superintendent in May, 2004 so he claims to still be a rookie. Before being named the Road Superintendent, he farmed in the area until 1982 when he started working for the county as an equipment operator.

The Bowman County roadway system includes 125 miles of oil sealed roads and 129 miles of gravel roadway. His staff includes three full time and two part time employees. The part time workers are retired personnel that return as needed.

He too is a typical county road superintendent in that he gives full credit to his crew. He stated that “they are an experienced group that requires very little direct supervision”.



Chris Hanson,
Adams County



Neil Hofland,
Superintendent,
Bowman County

**APWA Click, Listen
& Learn**

[http://www.apwa.net/
/Education/CLL/](http://www.apwa.net/Education/CLL/)

**Target Legal 1 – Hidden
Liabilities**

March 31, 2005

**Live from the APWA
North American Snow
Conference - Training
First-Rate Snowfighters**

April 19, 2005

**Protecting Your
Interests Underground**

May 12, 2005

Other Events

**ATSSA 35th Annual
Convention & Traffic
Exposition**

February 25-28, 2005
Phoenix, AZ

**ATSSA “How To”
Conference**

March 22-23, 2005
Fargo, ND

**ITE Conference and
Exhibit w/FHWA**

March 1-2, 2005
Las Vegas, NV

**Salt Institute Annual
Meeting**

March 3/5, 2005
Key Largo, FL

**NACE Annual Meeting
and Conference**

April 17-21, 2005
Bismarck, ND

**APWA North American
Snow Conference**

April 17-21, 2005
Kansas City, MO

He asked about the computer programs LTAP has available but indicated he is not yet ready to begin using them. His office consists of a desk that sits unprotected in the equipment maintenance shop. I had to agree that a computer would not last long in that environment. However, he did indicate that he is working on a proposal for an office sometime soon.

Neil and his wife Trish now live in Bowman. They have three grown children and three grandchildren.

Allen Heiser was named Stark County Road Superintendent in February, 2004. He is Stark County's very first centrally located Road Superintendent. The county is divided into three districts and prior to Allen's appointment as superintendent; the county functioned with a supervisor in each district.

Allen is uniquely qualified for his position. Before being named the Stark County Road Superintendent, he worked 3 years for a local engineering consulting firm and 23 years for a roadway contractor.

Because his is a newly created position, much of his time is spent developing new policy and procedures for his department. He has made the decision to begin using our Micro-computer Data Management System (MDMS) sometime soon. We installed the program on his computer at the time of my visit.

Allen is a busy man. He jokingly says that in his spare time, in addition to raising three children, he ranches north of Dickinson raising Angus Beef and Buffalo. Somehow, he seems to manage his time very well.

One of his right-hand employees is **Todd Miller**. Todd is an equipment operator with 20 years experience stationed at a District Shop in Richardton. Todd was in Allen's office the day I visited there and he too is an impressive individual.

Todd's credentials are a bit unusual for a heavy equipment operator. He has a Business Administration Degree with a minor in Computer Science from Dickinson State University. Because Todd likes and is comfortable with computers, Allen expects he will be a great asset as Stark County begins to use computer technology.

Todd and his wife Leah have two children. They believe a town the size of Richardton is a great place to raise a family. Leah teaches at the Taylor-Richardton Elementary School and the children include a 3rd grader and a 7th grader.

I am looking forward with great anticipation and, of course, enthusiasm to working closely with these five men. //



Allen Heiser, Superintendent,
Stark County



Todd Miller, Stark County

National Work Zone Awareness Week April 3-9, 2005

Slow Down or Pay Up

The sixth annual National Work Zone Awareness Week (NWZAW) will be held from April 3 to April 9 of this year. The purpose of NWZAW is to educate the nation on work-zone related injuries and fatalities. Part of this education is informing the public of the hazards and dangers that can be encountered and avoided when driving through a roadway construction zone.

Activities for the week will kickoff with a media and community awareness event near the Woodrow Wilson Bridge project. Law enforcement organizations from several states have expressed an interest in this event. They have been encouraged to bring the various devices that individual states use to combat work zone violators such as speeders.

To improve safety in highway work zones, data has been gathered on work zone crashes and fatalities by the National Work Zone Safety Information Clearinghouse (NWZSIC) by the Texas Transportation Institute at Texas A&M University and is available on the NWZSIC website. Nationwide the average number of work zone fatalities has increased 34 per cent in the five-years between 1999 and 2003. Another way to express these national figures is to note that from 1999 to 2003, a work zone fatality occurred once every 8.6 hours.

To reverse this trend, a continued effort is needed to improve the safety of work zones. The North Dakota Transportation Technology Transfer Center has joined with the efforts of the other 57 Local Technical Assistance Program Centers to

Everyone should take responsibility for work zone safety.

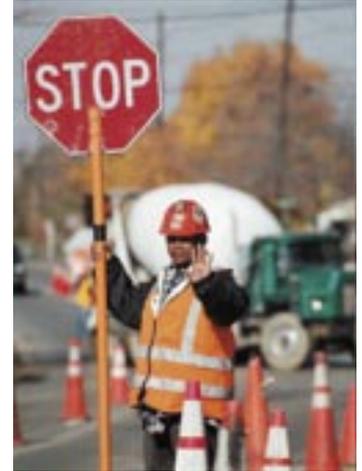
improve work zone awareness. Promoting National Work Zone Awareness Week is one step in this effort. Continued training on the standards and methods of traffic control through construction and maintenance work zones will be another part of this effort. This training is based on the standards and guidelines presented in the Manual on Uniform Traffic Control Devices (MUTCD).

To educate motorists about the hazards and dangers of work zones, the Federal Highway Administration has developed fact sheets about work zones. These sheets emphasize points such as:

- Work zone activity is significant
- Work zones cause delay
- There are more work zones in the summer
- Motorists are growing more frustrated
- Vehicle miles of travel grew at a greater rate than miles of roadway
- More work is being done on existing roads already carrying much traffic
- Night work is increasing as agencies try to manage work zone delays
- Work zone mobility and safety are linked

Work Zone Awareness Week is designed to bring attention to the problem of work zone safety and mobility. The kick-off event is co-sponsored by the FHWA, AASHTO, and ATSSA, with the cooperation of the ARTBA and AGC. //

Adapted from the FHWA Office of Safety and NWZAW 2005 articles written by John R. McCarthy of the Alabama Technology Transfer Center.



Final Rule on Work Zone Safety and Mobility

The final rule on Work Zone Safety and Mobility was published in the Federal Register (69 FR 54562) on September 9, 2004 with an effective date of October 12, 2007. The purpose of the update is to address the changing times of more traffic, more congestion, greater safety issues, and more work zones. The changes to the regulation will facilitate comprehensive consideration of the broader safety and mobility impacts of work zones across project development, and the implementation of appropriate strategies that help manage these impacts during project delivery. We believe that the new provisions in this work zone rule will help State Departments of Transportation meet current and future work zone safety and mobility challenges, and serve the needs of the American people.

To view the final rule, go to this FHWA website:

http://www.ops.fhwa.dot.gov/wz/resources/final_rule.htm



ARTBA Foundation: Applications for 2005 Highway Worker Memorial Scholarship

Washington, D.C. [January 11, 2005] The American Road and Transportation Builders Association Transportation Development Foundation (ARTBA-TDF) is now accepting nominations for the "Highway Worker Memorial Scholarship Program" for the 2005 academic year. The program provides financial assistance to help the children of highway construction workers killed or permanently disabled in the line of duty pursue post-high school education.

The scholarship program was launched in Oct. 1999 through a generous \$100,000 gift from the families of past ARTBA Chairmen Jack and Stan Lanford of Roanoke, Virginia.

The scholarships have a value up to \$2,000 and are supported by contributions from highway construction industry executives, firms and labor groups nationwide.

Eligibility Requirements:

- Applicants must be the sons, daughters or legally adopted children of highway workers who have died or become permanently disabled in roadway construction zone accidents;
- An applicant's parent must have been employed by a transportation construction firm or a transportation public agency at the time of his or her death or disabling injury;
- The scholarship award must be used to attend a post-secondary institution of learning that requires a high school diploma or Graduate Equivalent Degree (G.E.D.).

Scholarship Selection Criteria:

There are several criteria considered for selection of scholarship recipients:

- Past academic performance record, high school grades for new college entrants or cumulative college grade point average and academic performance for applicants already attending an institution of higher learning. A minimum cumulative academic performance of at least a "C" grade is required.
- A typewritten statement of no more than 200 words that explains his or her reasons for wanting to continue their education.
- Demonstrated need for financial assistance to attend school.
- Letters of recommendation in addition to those required by two teachers that are offered in support of the applicant's nomination.

Applications must be postmarked by **April 15, 2005**. To obtain a copy of the application form, contact ARTBA's Rhonda Britton at 202-289-4434 or go online to the association's Internet website at www.artba.org. Scholarship winners will be announced on or before **July 15, 2005**.

Over the past five years, more than 25 students have been selected as scholarship recipients. The association created the Transportation Development Foundation in 1985 to support research and education activities.

Contribute to the ARTBA-TDF

You can help support the ARTBA Foundation's programs. Send your gifts to: ARTBA-TDF, The ARTBA Building, 1010 Massachusetts Avenue, N.W., Washington, D.C. 20001. Corporate and personal contributions to support the programs and activities of the Foundation may be tax deductible. The Foundation's Federal Tax Identification Number is 52-6283894. 

NACE 2005 Meeting Bismarck, North Dakota

The NACE 2005 Annual Meeting and Management & Technical Conference will be hosted by the North Dakota Association of County Engineers in Bismarck, North Dakota from April 17-21, 2005.

Networking:

Throughout the conference attendees will have opportunities to meet public works leaders and their counterparts from other counties around the country, to exchange ideas, and have some fun. You can build professional contacts while meeting friends, old and new.

General Session & Technical Sessions:

By attending timely and informative sessions and workshops delegates find ideas that help them get the most benefit out of scarce local government resources. Also you will gain a better understanding of the latest transportation legislation and regulations. An additional educational value is that you can earn professional development units for attending the NACE conference.

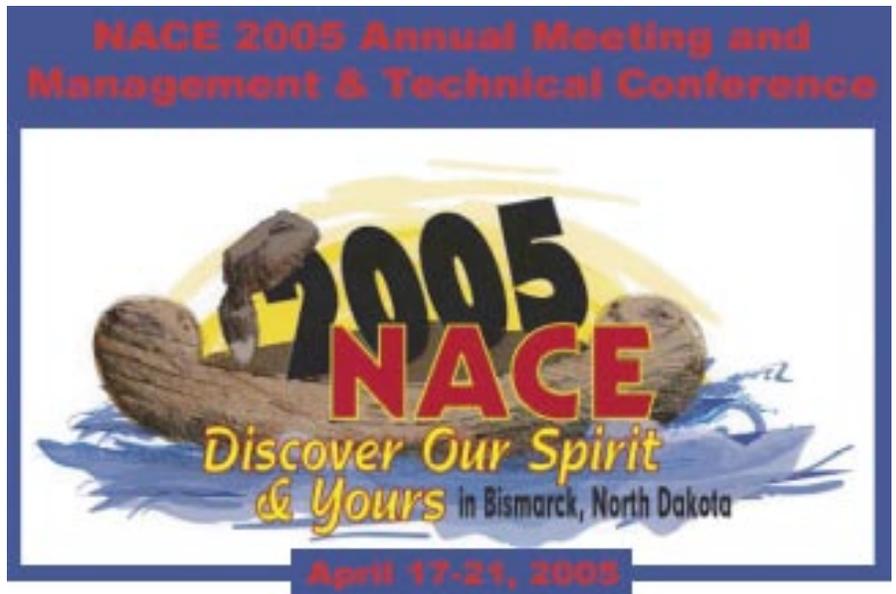
GENERAL SESSION TOPICS:

- Are We There Yet? - Reauthorization of TEA-21
- Feeding the Beast - Effective Media Relations
- Ready for Your Day in Court? - Mock Trial
- Everyone's Top Priority - Rural Road Safety

TECHNICAL SESSION TOPICS:

Transportation Track

- Bridge Rehabilitation
- Gravel Road Maintenance
- Road Reclamation/Asphalt Recycling Techniques
- MUTDC Update
- What's New in Snow and Ice Control



Technology Track

- GIS, Rural County Applications
- Steel Straightening of damaged bridges
- Geotechnical Presentation
- Pavement Preservation
- What's New with Our LTAP's

Management Track

- Local Road Research Programs
- Meeting the Transportation Workforce Shortage
- Dealing with the Media w/ County Perspective
- Asset Management
- Litigation: Preparing Yourself for the Inevitable

Committee Meetings:

Share your knowledge and insights on issues of interest to you. All members are encouraged to participate in the committees that cover a wide range of issues including traffic, construction and maintenance, information technology, GIS surveying, structures, storm water and drainage, or asset management (see committee listings in the Annual Membership Directory or on the NACE web site at, www.countyengineers.org)

NACE 2005 Conference Information•Registration:

www.countyengineers.org

(The North Dakota LTAP Center office has the full agenda and copies of the NACE delegate and guest information and registration brochure. If you do not have access to the website, call us at 1-800-726-4143.)

NACE Optional Pre-conference Events:

Saturday, April 16, 2005 - Golf Outing

Saturday, April 16, 2005 - Tour of Falkirk Coal Mine

Saturday, April 16, 2005 - Curling/Hockey Game

Separate registration and fees required for these events; contact NACE or visit: www.countyengineers.org

Exhibit Show:

During the first two days on Sunday and Monday, the exhibit show offers a friendly environment for delegates to learn about the latest products and services. This year's show will feature over 100 exhibit booths and an Outdoor Equipment Show. The exhibit map and listing will be updated on the NACE website so that you can see ahead of time.

Annual Banquet:

The grand finale of the conference is the President's Reception and Annual Banquet dinner which includes the presentation of Engineer of the Year awards, the induction of the new NACE officers and entertainment.

Finally, the local attractions and tours top off your reasons to attend. The NACE Conference is the only conference designed just for you because it's planned and hosted by your peers, NACE member volunteers. 

An Effective Public Works Leader Manages Resources

by William A. Sterling, P.E.
Director of Public Works
(retired), City of Greeley, CO

Managing your resources

Management has been described as the process of achieving predetermined objectives through the efforts of other people. Quite appropriately, a manager focuses on goals, results, and such end products as the goods and services to be provided.

Reviewing your methods

Nothing inhibits an organization faster than people who believe

that the way they worked yesterday is the best way to work tomorrow. To succeed, not only do your people have to change the way they act, they have to change the way they think about the past. "If you always do what you have always done...you will always get what you have always gotten." A definition of insanity could then be "if you keep doing the same things the same way over and over again, you somehow will get different results." While in the world of sports and acting, practice makes perfect; in the world of public works, this practice could lead to an unanticipated career change. Given limited resources to accomplish increased demands for service greatly impacts a public works manager.

As a public works leader, it is your responsibility to continuously review your methods and procedures to ensure continuous improvement. There are many review methods readily available to you. To name just a few:

- Benchmarking
- Reengineering
- Internal audits of procedures
- Self-Assessment through APWA

How do you begin?

To begin, I would suggest you utilize the most powerful resources available to you – your employees – to develop or review your current situation:

- Mission statement
- Vision statement
- Values of the organization
- Goals
- Strategies
- Accountability (performance indicators)

As told by the Cheshire Cat to Alice in Wonderland, if you don't know where you're going, any road will get you there. The above listed items will not only get you where you want to go, but will tell you when you have arrived.

Is this all a manager has to do? Peter Drucker said, "The pertinent question is not how to do things right, but how to find the right things to do and concentrate resources and efforts on them."

How does a manager in a public works agency know what services to provide and how to best allocate limited resources to meet what seems to be the wants and desires of the community? Elected officials typically establish policy and approve budgets to meet the needs of their constituents. The public works manager puts together a plan and budget for consideration by the elected officials. Determining what programs to put in these plans and how much to allocate for each area are becoming more complicated as the range of demands increases and the available funds decrease.

The development of a strategic plan is becoming more and more important to public works leaders and the administration of their departments. So far I have identified some important methods that would be of value in managing resources:

- Sharing of resources
- Utilizing your employees
- Reviewing your methods
- Developing a strategic plan
- Performance indicators

Sharing of resources

Labor is the predominant public sector resource, but the



management of equipment, materials, and space should not be overlooked in the management of resources. Needed equipment, materials, or facilities may lie right in the hand and yet be unnoticed. Managers who keep alert to the world around them and who exercise some imagination are often rewarded for their awareness.

Are there other ways to utilize scarce or costly equipment? Is it possible to share certain specialized pieces of equipment, share staff, or cooperate in joint purchasing of supplies or services? An inventory of specialized pieces of equipment within the city organization may be obtained from the Equipment Maintenance Department. A utilization study could be conducted to determine if equipment is being utilized efficiently and effectively. Specialized pieces of equipment may be rented on a short-term basis to accomplish seasonal operations or tasks. Adjacent municipalities may join forces to secure expensive equipment. Intergovernmental agreements may be used to provide common services (sweeping, striping, signal maintenance, etc.). Outsourcing of costly services may be a management tool to review.

Utilizing your employees

Your goal as a manager should be to gradually increase the competence and confidence of your people so that you can begin to use less time consuming Management demands – supporting, coaching, and delegating – and still get high quality, cost effective, and responsive results.

The traditional source of labor for public sector agencies is the

fulltime employee. However, it may be possible to make better use of existing fulltime budgeted positions. Some options could include:

Inside consultant groups –

Many public works agencies are likely to have more skills, knowledge, and abilities available to it than most private consulting firms. You and your employees have the institutional knowledge and the incentive to change.

Reducing absenteeism –

Absenteeism robs the manager of budgeted productive positions. Absenteeism imposes high costs on an organization. It burdens managers who have to make rearrangements, and delays coworkers who have to depend on the absent worker. Absenteeism may be addressed by eliminating some of the causes and by rewarding excellent attendance (i.e., personal leave days, unused sick leave conversion, wellness programs, reassignment of injured workers, child care, etc.). High absenteeism could be a sign of dissatisfied workers who have to pick up the slack.

Alternative schedules –

The traditional work day (8:00 a.m. – 5:00 p.m.) may be the most conventional work arrangement, but it is not the only one possible. Alternative schedules may make more economical use of resources, accommodate employees, and enhance service to the citizens. Alternative schedules come in a variety of ways:

- Flex time (i.e., core times)
- Compressed work week (i.e., four 10-hour days)
- Shift work
- Alternative work week

- Teleconferencing (work at home)

Employee alternatives – In lieu of using permanent fulltime employees, there may be more alternatives to explore, such as:

- Part-time employees (less than 40 hours/week)
- Job sharing (utilizing one person to perform two similar job functions)
- Temporary staffing
- Utilizing retired employees
- Utilizing interns from local universities
- Contracted labor for short periods of time
- Volunteers
- Unpaid workers from the private sector
- Community service workers

Employee involvement – If you really want to find better, more efficient and cost-effective methods of accomplishing a task in a responsive manner, ask the person who does the work. More often than not, excellent results are obtained when you bring your employees into the picture early. However, to do that, you must gain their trust.

Abraham Lincoln gained the trust and respect of his subordinates by building strong alliances on both personal and professional levels. He wanted to know how his people would respond in any given situation; who would have a tendency to get the job done on his own, or be likely to procrastinate and delay; who could be counted on in an emergency and who couldn't; who were the brighter, more able, more committed people; and who shared his strong sense of ethics and values. He also wanted his subordinates to get to know

him so that they would know how he would respond in any given situation, what he wanted, demanded, and needed. If they knew what he would do, they could make their own decisions without asking him for direction, thereby avoiding delay and inactivity.

You, as a manager, have to set the objectives (what needs to be done). The employees should be allowed input into setting the goals and the method of achieving those goals. Let them do their job!

Developing a strategic plan

Public works managers deal with an increasing array of issues and demands for services. The delivery of public works services and the planning, construction, operation, and maintenance of public works facilities has become much more complicated. The challenges facing public works managers is as much in knowing what needs to be done as in how to get it done. How does a manager remain focused on the core mission of the organization? Strategic planning is one tool that may be of value to public works managers seeking to meet the demands of their communities in the most effective manner.

A strategic plan is a written document that defines a vision of the organization. It is a method for planning the organization's future to accomplish its mission, vision, values, goals, and strategies. A good reference book for the development of a strategic plan is APWA's *Moving Forward: A Public Works Perspective on Strategic Planning*. Again, remember the hare's conversation with Alice!

Performance indicators

After all is said and done, you

need to develop a series of performance indicators. The strategic plan will set forth your workload and inputs; performance measures will measure the outputs. Both will determine your outcomes. How are we doing? APWA has an excellent publication entitled *Performance Measurement in Public Works*. Remember, how can you manage if you cannot measure? What is important gets measured. A last word of caution: Be selective on what you measure, how you measure, and what you do with the results.

“Don't work harder – work smarter!”

Closing

In closing, I hope I have given you some pointers in managing resources. I'm sure you all do these things, but occasionally we need to be reminded. There are many good publications available through APWA to help you manage. Remember, you are given only so much in resources; what you do with those limited resources and how effective you are in providing services will distinguish you from a great number of managers in our profession.

“We, the few, are asked to do so much more with less until we reach a point that we can now do everything with nothing.”

Bill Sterling, P.E., a past APWA Top Ten recipient and a member of APWA's Leadership and Management Committee, can be reached at: sterling@publicworksmanagement.com.

Modified and reprinted with permission from the APWA Reporter, December 2004 issue.

NOTE: The APWA Leadership and Management Committee has published the brochure entitled “Public Works Leaders' Core Competencies.”

The brochure is based on a survey of public works officials and those who employ them to determine the most important characteristics of an effective public works leader. These “Baker's Dozen” core competencies help public works professionals recognize and develop leadership talent.

This article is the twelfth in APWA's series of core competencies recommended by the committee. For more information, please contact Ann Daniels, APWA Director of Technical Services, at (800) 848-APWA or at adaniels@apwa.net.



Core Competencies at a Glance

- Possesses Integrity
- Is Accountable
- Is Decisive
- Is Public Works Oriented
- Empowers Others
- Is Deliberate
- Is a Communicator
- Shows Respect for Others
- Is Technically Knowledgeable
- **Manages Resources**
- Is Resilient
- Delegates
- Maintains Balance

Oil Spill Prevention Control and Countermeasures (SPCC)

EPA Seeks Penalties Against 17 North Dakota Facilities for SPCC Violations – 11/25/2003 from Business & Legal Reports at: <http://envirol.blr.com/display.cfm.id.43045>.

EPA's Denver office is seeking penalties of more than \$400,000 against 17 facilities in North Dakota for violations of the federal Clean Water Act's Spill Prevention Control and Countermeasure (SPCC) Plan regulations. The proposed penalties range from \$8,192 to more than \$47,000 per facility based on oil storage capacity and the seriousness of the violations. EPA's actions require the facilities to develop and implement oil spill prevention plans, and/or clean up spills and take corrective action.

Failure to comply with the requirements of the SPCC Plan regulations may result in harmful oil spills that create the potential for fires and explosions--endangering human life and property, as well as contaminating water. A single pint of oil released into water can cover up to one acre of water. Even in such small quantities the oil can be deadly to birds, animals and fish. An oil spill in Fargo in May 2003 caused the cities of Fargo and Moorhead to stop pumping water from the Red River for their drinking water until the problem was safely addressed.

EPA conducted 44 SPCC inspections at facilities in eastern North Dakota in September 2002. The facilities EPA inspected store, distribute or use oil. Thirteen facilities either had no violations or took the corrective actions necessary to achieve compliance subsequent to the inspections. EPA is not proposing penalties for these 13 facilities. Investigations are continuing at two other facilities. An additional 12 facilities had less serious violations which will be promptly addressed and will include smaller penalties.



The facilities cited by the Agency for major violations, such as no secondary containment, no (or inadequate) SPCC Plans, no employee training, inadequate facility security and/or failure to clean up oil spills and/or which have numerous or repeat violations have 30 days to accept EPA's proposed penalty or request a formal hearing.

U.S. EPA Regulation 40 CFR 112

These regulations may apply to your operation?

The Spill Prevention, Control, and Countermeasures (SPCC) regulations apply to facilities

that store oil in excess of the following limits and from which an oil leak or spill could ultimately discharge to a surface water (i.e., storm sewer, ditch, drainage tile, river or lake).

- Total facility aboveground oil storage capacity greater than 1,320 gallons (in containers with a capacity of 55 gallons or more), or
- Total facility underground oil storage capacity greater than 42,000 gallons.

General Requirements / Summary

SPCC plans are designed to minimize the potential for an oil release to occur and mitigate any environmental impacts in the event one does occur.

What are the benefits of implementing an SPCC plan?

The SPCC regulations were established to reduce the likelihood and severity of oil leaks and spills. By preparing and implementing a plan, the facility assures it has installed effective spill prevention equipment/secondary containment, established emergency response plans, and provides employee training to prevent and/or respond to oil spills. These proactive activities will reduce emergency response and environmental liability costs associated with spills. Likewise, reduced fire risks and worker exposure can be realized. Finally, federal law requires SPCC plans for facilities that exceed the storage limits listed above and thus, should be implemented from a strict compliance standpoint.

Preparation and Amendment

- SPCC Plans must be reviewed and certified by a licensed Professional Engineer.
- A copy of the Plan must be maintained at the facility or property where oil is stored or the nearest attended facility if the storage area is not normally attended at least four hours per working day.
- SPCC Plans must be amended within six months whenever there is a change in facility design, construction, operation, or maintenance, which affects potential for oil discharge. The plan must be reviewed and recertified every five years.



The SPCC Plan Must Include

- Written descriptions of any spill events in the preceding twelve months, including corrective action and plans to prevent recurrence.
- Physical layout of facility, including a diagram marking location(s) and contents of each oil storage container and any completely buried tanks, transfer stations and connecting pipes.
- Predictions of the direction, rate of flow, and total quantity of oil that could be discharged.
- A complete discussion of the spill containment and/or diversionary structures

or equipment used at the facility, including:

- Dikes, berms, or retaining walls
- Curbing
- Culverts, gutters, or other drainage systems
- Weirs or booms
- Spill diversion/retention ponds
- Double-wall tanks with interstitial monitors (i.e., electronic, manual or visual means)
- Sorbent materials
- A discussion of how the facility manages containment area drainage, including:
 - Storm water in dikes (i.e., restrained by locked valves)
 - Dike drainage practices (i.e., inspection procedure and manual discharge)
 - Management of undiked areas (i.e., diversion to a retention area)
- Bulk storage practices, including:
 - Verification that tank material and construction are compatible with material stored
 - Secondary containment means (i.e., double walled tanks with interstitial monitoring, dikes with capacity equal to the largest tank plus 10%, holding ponds, etc.)
 - Procedure to ensure that drainage of containment area does not release oil and the record keeping system to document compliance (i.e., diked area drain valve locked closed; area inspected for product before the valve is opened; valve opened to drain precipitation; valve locked closed; valve operator signs inspection/



- drainage record for that event) Integrity testing procedures and record keeping (i.e., hydrostatic testing, visual inspection, and/or nondestructive shell thickness testing)
- Facility transfer practices, including:
 - Means to limit corrosion of buried piping
 - Means to inspect and maintain aboveground valves and piping
 - Procedures to warn vehicles to avoid damaging aboveground piping and storage, where appropriate
- Tank truck loading and unloading practices, including:
 - Documentation that loading and unloading procedures meet Department of Transportation (DOT) requirements
 - Loading/unloading area containment capacity (i.e., at least the capacity of the largest single compartment of the vehicle being loaded or unloaded) and containment method
 - Means to prevent vehicle departure before transfer lines are disconnected
- Inspection and documentation means to assure the plan is being implemented. Records must be kept for at least three years.

- Site security, including:
 - Restriction of access to oil handling and storage areas
 - Means to secure tank valves, pumps, and loading and unloading connections when in standby status
- SPCC training programs conducted, including:
 - Operation and maintenance of equipment
 - Applicable environmental regulations and requirements overview
 - Designation of an SPCC Plan coordinator
 - Training schedule
 - Personnel training records
- A Certification of the Applicability of Substantial Harm Criteria form (attached) should also be completed.
 - If all five questions on the form are answered with “No”, then the form need only be included and maintained as part of the SPCC.
 - If any question is answered yes, a facility-specific response plan must be submitted to the EPA Region VIII. Contact the ND Division of Emergency Management or the ND Department of Health for additional assistance if this is the case.

Reporting

In the event of a leak or spill emergency:

1. Contain the spill and protect lives and property
2. Contact emergency responders and the Local Emergency Planning Committee (LEPC).
3. Contact the ND Division of Emergency Management

React Officer through State Radio at 1-800-472-2121 with the following information, if possible.

- Name or type of substance
- Actions taken to contain the spill/leak
- Estimated quantity released
- Time and duration of release
- Type of area affected (ground, water, wetlands, river, etc.)
- Noticeable health effects as a result of the spill/leak
- Your name and contact information

All leaks and spills should be dealt with immediately. For further assistance, call the ND Department of Health, Division of Waste Management at (701) 328-5166.

Compliance Time Extension
Subpart A-Applicability, Definitions, and General Requirements for All Facilities and All Types of Oils

Section 112.3 is amended by revising paragraphs (a) and (b) to read as follows:

Sec. 112.3 Requirement to prepare and implement a Spill, Prevention, Control, and Countermeasure Plan.

- a.) If your onshore or offshore facility was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary, to ensure compliance with this part, on or before August 17, 2005, and must implement the amended Plan as soon as possible, but not later than February 18, 2006. If your onshore or offshore facility becomes operational after August 16, 2002, through February 18, 2006, and could reasonably be expected to have a discharge

as described in Sec. 112.1(b), you must prepare a Plan on or before February 18, 2006, and fully implement it as soon as possible, but not later than February 18, 2006.

- b.) If you are the owner or operator of an onshore or offshore facility that becomes operational after February 18, 2006, and could reasonably be expected to have a discharge as described in Sec. 112.1(b), you must prepare and implement a Plan before you begin operations.

Note that virtually all local government road and street departments would fall under the category of an “onshore facility – in operation before August 16, 2002.” Therefore, it is already assumed that the department would have a SPCC plan in place. The current extension allows more time to comply with the amended requirements in the Federal rule. If you still do not have any SPCC plan in place, don’t delay preparing and submitting your plan. //

SOURCES: US EPA at www.epa.gov/oilspill; Iowa Waste Reduction Center at www.iwrc.org/summaries/SPCC; South Dakota LTAP newsletter insert; and the North Dakota Division of Emergency Management at www.state.nd.us/dem/.

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The Transportation Technology Transfer Program is a nationwide partnership under the Local Technical Assistance Program (LTAP) of the Federal Highway Administration, state departments of transportation, universities, and others. The program's purpose is to translate into understandable terms the latest transportation research and technologies. This information is made available to local officials transportation personnel in towns, cities, counties and townships.

Federal support for operation of the North Dakota TTT Center at North Dakota State University (NDSU) is matched by the North Dakota Department of Transportation, NDSU, the North Dakota Insurance Reserve Fund and the ND TTT Center. Guidance for the ND TTT Center is provided by an Advisory Board composed of members representing the federal, state, local and private sector transportation community. This newsletter is designed to keep you informed about new publications, videos, innovative technologies and training opportunities that will be helpful to you and your local unit of government.

The use of product brand names in newsletter articles does not constitute any endorsement of those products by the ND TTT Center.

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