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Information Technology Organization: Organizing to Meet the Needs of the Regional Offices of New York State Department of Transportation
NYSDOT Project C-01-55

Final Report
March 2004

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16. Abstract

This project assessed the roles and responsibilities of the Regional Information Technology organizations of New York State Department of Transportation (the Department). In order to better understand the roles and responsibilities of the Regional Information Technology organizations, their resource needs were identified and documented. This information shall enable Regional Directors and other Department managers to make more efficient and effective use of the Department Information Technology resources. The basic strategy of the study had three foci: (l) continually engage the Department throughout the study; (2) review previous work, including the: META Group's findings on the Department's Information Technology (IT) organization in 1999 and relevant studies conducted under the auspices of Transportation Research Board, and (3) intensive interviews conducted with staff at the Main Office Information Services Bureau (ISB) and the Department's Human Resources staff and at all of the Regions of New York State Department of Transportation.

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Organizing to Meet the Needs of the Regional Offices of New York State Department of Transportation

FINAL REPORT

Prepared for
Region II University Research Transportation Center (UTRC)
New York State Department of Transportation (NUSDOT)

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I.   Executive Summary

1. Introduction

This project assessed the roles and responsibilities of the Regional Information Technology (IT) organizations of New York State Department of Transportation (the Department). In order to better understand the roles and responsibilities of the Regional Information Technology organizations, their resource needs were identified and documented. This information shall enable Regional Directors and other Department managers to make more efficient and effective use of the Department Information Technology resources.

2. Research Approach

The basic strategy of the study had three foci: (1) continually engage the Department throughout the study; (2) review previous work, including the META Group's findings on the Department's Information Technology (IT) organization in 1999 and relevant studies conducted under the auspices of Transportation Research Board, and (3) intensive interviews conducted with staff at the Main Office Information Services Bureau (ISB) and the Department's Human Resources staff and at all of the Regions of New York State Department of Transportation. These foci guided the study as summarized in the material to follow.

3. Research Methods

The basic methods used in this study were meetings, interviews and field studies – with representatives from ISB, Human Resources, Regional Offices and TRB. These methods incorporated two major study techniques: (1) *benchmarking* based on knowledge of the best practices in the field (covering both government and industry, for example, customer service

requires 24/7 operations); and (2) *questionnaires* that used the benchmarks to measure the state of the art of IT practices at the regions. The benchmarks focus on: (1) IT as a strategic weapon for achieving effective and efficient customer service for the organization and (2) IT as a productivity tool to reduce cycle time and transaction costs for the enterprise. The metrics for these benchmarks were: how Regional IT supports customer service, both internally and externally, in the context of the ongoing Department transformation; how regional IT supports Traffic Management Centers (TMC)/Transportation Operations Centers (TOC); how regional IT supports data integration throughout the life cycle of a project; and how regional IT interacts with IT–applications in functional groups as well as with Intelligent Transportation Systems (ITS), Geographic Information Systems (GIS) and other IT-intensive broad-based operations. The first meetings were held with the leadership in the Main Office ISR, Human Resources, and representatives from Civil Service to plan and approve the research methods and tools. The preliminary plan presented at these meetings is given in Appendix A. Representatives from these organizations participated in both the pilot interview and survey at Region 2, and subsequent field studies with the remaining regions.

4. Data Collection

The questionnaires and survey instruments used to guide our interviews in the field are given in Appendix B. The field study at each region started with an interview with the Regional Director, which was followed by a meeting with the leadership of all the functional groups, a break-out meeting with Design, Maintenance, and TMC/TOC (when relevant), respectively, and a meeting with Regional IT staff. At the group meetings, questionnaires were distributed for the attendees to guide the discussion and solicit written responses. The study team engaged the attendees in

- "TRANSFORMATION" requires that DOT become a customer-focused organization, which requires comprehensive information systems to provide the information needed to serve DOT customers.

- Use the "TRANSFORMATION" to identify the strategic needs and opportunities for regional IT; regional IT must be a part of "TRANSFORMATION" to make it work.

- The major core competencies for the new DOT will require IT-enabled integration: 24/7 customer service, project life cycle management, GIS applications and Web communications.

- The Regional IT Manager should become a Regional CIO and report directly to the Regional Director – in all regions.

- The Regional CIO should develop, in concert with "TRANSFORMATION", a Strategic Plan for regional IT, and be responsible for all IT service delivery in the region, including TMC/TOC and enterprise-wide applications.

- 24/7 Customer Service will require a TOC in concert or integrated with TMC; IT is necessary for both to function.

- TMC/TOC should be managed with a consistent statewide purpose and with statewide standards.

- Since customers' needs cut across DOT defined regions, regional autonomy should not mean a loss in services or be the cause for inconsistent quality of services.

- Use regional IT to achieve both goals – statewide coordination for TMC/TOC and regional customer services.

- Regional IT is presently providing support for IT infrastructure. Key to productivity is effective use of applications. Therefore, regional IT should take initiative to develop more use and support for enterprise –wide applications, and provide support for all applications.

- Develop regional IT visions and align the reward structure with human resources development plans.

- Provide training to enable Regional IT Director to "TRANSFORM" into Regional CIO.

- The Regional IT manager needs to simplify and encourage the electronic transfer of information among functional groups. Expertise from ISB should support this effort.

- Opportunities exist for leveraging regional IT resources outside IT groups and for sharing application support expertise across the DOT.

RESOURCES		1	2	3	4	5	6	7	8	9	10	11
IT Manager reports to:		RD	RD	RD	Reg. Support Mgr	RD	RD	RD	Asst to RD	RD	RD	Asst. to RD
Number of PC's including laptops		420	350	560	517	Approx 600	456	343	651	498	511	453
Number of IT Support Staff Including Consultants		5	6	7	6	8	7	7	7	7	11	7
Where GIS Coordinator is located:		Planning & Program Mgmt.	IT	IT	Planning & Program Mgmt.	IT	Planning	IT	Design	IT	IT	IT
Where Web Content Coordinator is located:		Public Info	RD	IT	RD	IT	IT	RD	IT	IT	IT	Design
TMC exists and reports to:		IT	N/A	IT & Traffic	Traffic	IT & Traffic	Traffic	N/A	Traffic	(TOC) Maint	IT & Traffic	Traffic
Program Areas With Dedicated IT Staff Support	Traffic	Yes	No	No	No	No	No	No	No	No	Yes	No
	Planning	Yes	No	No	No	No	No	No	No	No	Yes	No
	Real Estate	No	No	No	No	No	No	No	No	No	Yes	No
	Administration	No	No	No	No	No	No	No	No	No	No	No
	Construction	Yes	Yes	No	Yes	No	No	No	Yes	No	Yes	No
	Design	No	No	No	No	No	No	No	Yes	No	Yes	No
	Maintenance	No	No	No	No	No	No	No	No	No	Yes	No
	Equipment Management	No	No	No	No	No	No	No	No	No	No	No

Table 1: Regional Comparison

free-style questioning using the questionnaires to initiate and manage the meetings. Any completed questionnaires were collected by the Regional IT manager and mailed to ISR. A comprehensive tape recording is available for every interview and meeting. Both the oral and written questions and responses constitute the survey data set. Region 2 was visited first (June 5, 2003), the pilot study, and then Regions 1, 9, 11, 10, 7, 3, 4, 6, 5, and 8 (August 25, 2003).

5. Analysis of the Data

The data collected were analyzed to identify the common tasks, links, and needs, as well as those unique to each region. A trip report was produced to document the study at each region and provide a first level analysis of the results (all trip reports are included Appendix C). Table 1 presents data on the IT Resources available in the regions.

The intellectual substance of the study, however, is the summary of these analyses into the observations and recommendations. Some salient points are worth noting as examples for this summary. First, the Main Office Help Desk is used to varying degrees in all regions and has its advantages and issues. IT groups at all regions are responsible for IT infrastructure. Individual regions may have their own informal IT support for their own applications. Finally, the vision for IT differs from region to region, as does the vision for the TMC/TOC concept. More observations are found in the Final Presentation.

6. Create a Department Roadmap for Information Technology Practices at the Regions

The recommendations in the report provide a vision for IT practices at regions for the Department while undergoing transformation. These recommendations represent a roadmap from the perspective of this study. The recommendations cover issues ranging from strategic to operational as follows:

- Develop a venue for sharing best practices statewide with other regional IT groups. Examples might include:
    o Newsletters and user groups
    o Regional planning process for ITS and GIS
    o Shared IT support knowledge base and experts
    o Advisory council overseeing both IT and IT-using applications in functional groups

7. Compilation of Results and Final Report

This report presents an aggregate level model and the results of the study in the form of a Power Point presentation; the questionnaires and survey instruments used in the study and a collection of trip reports, one for each region. A presentation of the results was made to all regional IT managers at a Department meeting. The observations and recommendations made have not met with any objection or disagreement. Feedback from that meeting and subsequent meetings with the leadership of ISB, the Department's Human Resources staff, and Civil Service were incorporated into the final report.

A Preliminary Plan for Conducting the Investigation
(For discussion in the 5/12 Meeting at the DOT)

I. The Basic Topics of Investigation at the Regions

1) Helpdesk Activities by IT-Titled Staff- The main goal of this helpdesk analysis is assessing who gets assigned what and why among the regular IT staff at a regional office. We will also assess the workload due to helpdesk assignments in relation to the overall workload.

2) Helpdesk Activities by Non-IT-Titled Staff- The focus here is identifying all personnel who assist and perform helpdesk assigned activities but are in other titles. This information will help identify the real (as opposed to nominal) domain of IT support through the helpdesk. We will also assess the relative workload due to the helpdesk assignments on these personnel.

3) Internal Processes for Non-Helpdesk Based IT Support- The concept here is to identify and quantify the IT support performed in regions that goes outside of the helpdesk support channel. This analysis and assessment will also lead us to a better understanding of the total IT domain, functions, and workload.

4) External Processes for Non-Helpdesk Based Support.- The purpose here is to assess and determine the influence of external constituencies (e.g., the Thruway Authority) on the IT functions at regions, such as these agencies' requests for support as well as the need to interact with them when performing IT functions.

5) Capital Investment / Non-Capital/ Human Resources Acquisition- A thorough analysis of the process of who, what, when and how acquisition for IT resources (including human resources) are conducted. This will help illuminate the organizational control issues regarding IT, especially the interface and interaction between the regions and the headquarters, and with other State units.

6) What Else do IT Staff Do in Regions- This will help provide a closure of the investigation on the current deployment of IT human resources at the Regions. The information also promises to uncover unknown issues, including the relationships with other functions and organizations.

II. The Strategies and Methodologies of the Investigation

The basic method of investigation is a combination of on-site interview and document examination. We will maintain a log of interview reports and a repository of relevant documents, and will produce a (summary) trip report after each visit to a region. We might request the permission to tape-record some of the interviews and/or to transcribe during a meeting.

Some specific strategies for investigating each of the above topics are listed below.

1) Helpdesk Activities by IT-Titled Staff- Review of helpdesk documentation at the headquarters and the regions, and interview with IT staff at regions.

2) Helpdesk Activities by Non-IT-Titled Staff- Review of Helpdesk documentation and interview with non-IT-Titled staff at regions.

3) Internal Processes for Non-Helpdesk Based Support- Interviews, software assessment and activity observation.

4) External Processes for Non-Helpdesk Based Support.- Interviews, software assessment and activity observation.

5) Capital Investment / Non-Capital/ Human Resources Acquisition- Interviews, human resources reviews and historical budget reviews.

6) What Else do IT Staff Do at Regions- Interviews, documentation review.

APPENDIX B
ISR Consulting Services
Rensselaer Polytechnic Institute
Regional DOT Group Questions

1. How much does your group use or rely on IT- light, medium, or heavy?

Light: The group uses ONLY standard IT (PC, e-mail, Web) and/or standard DOT packages for ONLY personal (report, presentations, etc.) and/or administration (e.g., time sheets) use. That is, you could do your core job without IT and you do not really need to be IT savvy. Overall, the use of IT accounts for less than 30 % of all that your group does.
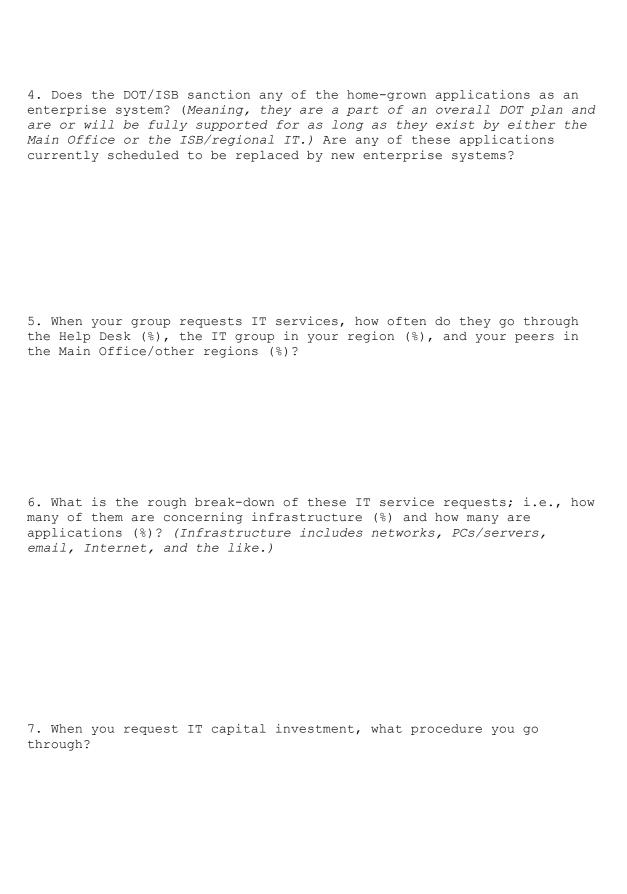
Medium: CLEARLY in between light and heavy. That is, you need to use IT to do your job and you have to have some IT expertise within your group to assure smooth running of your IT and applications. If you feel that you are a boarder line case between medium and light (or medium and heavy), then please elect light (or heavy).

Heavy: Your group develops your own, home-grown applications, maintains peer-developed (either from Main Office or other regions) applications, and/or uses third party, vendor applications, for use in BOTH administration and core functions. Suffice to say that you cannot do your job without IT, so much so that you need to be significantly self-reliant regarding IT services for your applications (not including infrastructure support). Overall, the use of IT accounts for more than 70% of all that you do.

1b.If you are a medium or heavy user of IT, please elaborate a little how you rely on IT to do your job.

2. Do you have "IT-liaisons", either formally designated or informally perceived, in your group, and if so, how many and roughly how much of their time (%) is spend on IT-related work?

3. What are the significant application packages that your group uses? What they are used for? How many of them are third party/vendor systems (%) and how many were developed by your group/peers in Main Office or in other regions (%)? Who is supporting them (e.g., vendor, self, Main Office, IT/ISB, no one)?

4. Does the DOT/ISB sanction any of the home-grown applications as an enterprise system? (*Meaning, they are a part of an overall DOT plan and are or will be fully supported for as long as they exist by either the Main Office or the ISB/regional IT.*) Are any of these applications currently scheduled to be replaced by new enterprise systems?

5. When your group requests IT services, how often do they go through the Help Desk (%), the IT group in your region (%), and your peers in the Main Office/other regions (%)?

6. What is the rough break-down of these IT service requests; i.e., how many of them are concerning infrastructure (%) and how many are applications (%)? (*Infrastructure includes networks, PCs/servers, email, Internet, and the like.*)

7. When you request IT capital investment, what procedure you go through?

Looking to the future

1. Does it make sense to request a region-wide IT road map for
applications and information sharing?

2. What are you thoughts about region-wide enterprise systems, which
can assist groups working together within the region? (For instance,
uses CAD or other systems to integrate the life cycle of highway or to
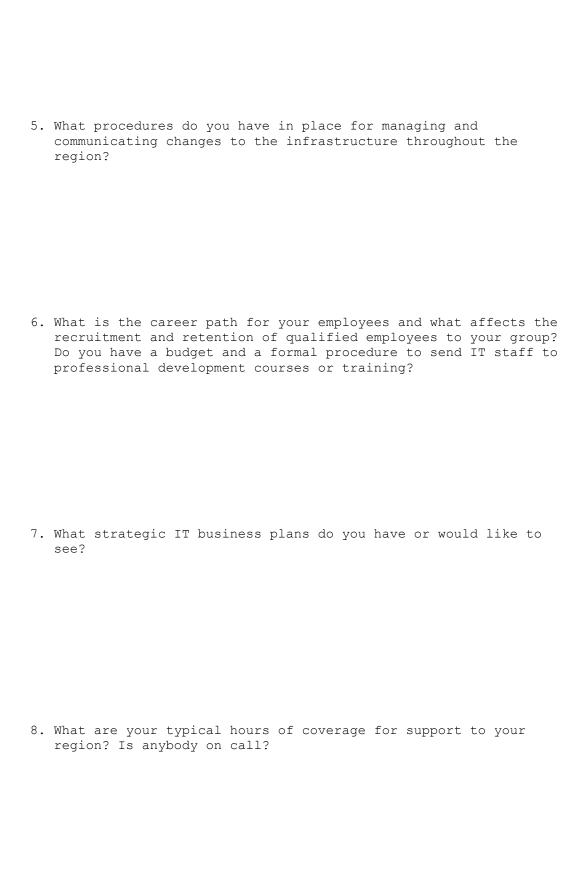manage the life cycle of a contract.)

3. Is 24/7 customer service a relevant concept to the region as a
whole, or only meaningful to some groups, at best? (For instance,
expands TMC into 24/7 Operations Center.)

ISR Consulting Services
Rensselaer Polytechnic Institute
Regional DOT Maintenance Group Questions

1. What real time IT does your group use now and what might your
   group need in the near future?

2. Is 24/7 customer service a need that you face now or in the near
   future?

3. Do you see the need for information sharing with other groups in
the region and/or the Main Office/other departments? IF so, what
groups and what specific needs?

ISR Consulting Services
Rensselaer Polytechnic Institute
Regional DOT IT Group Questions

1. Do the assignments from the Help Desk account for all that you
   do? What percentage of your workload does it consist of?

2. What are the other tasks that your group performs?

3. What are some of the top concerns you have?

4. What might be some of the top issues other groups in the region
   may have with your group?

5. What procedures do you have in place for managing and communicating changes to the infrastructure throughout the region?

6. What is the career path for your employees and what affects the recruitment and retention of qualified employees to your group? Do you have a budget and a formal procedure to send IT staff to professional development courses or training?

7. What strategic IT business plans do you have or would like to see?

8. What are your typical hours of coverage for support to your region? Is anybody on call?

1. To what extent is your group a self-contained IT shop in your own right (*in terms of using, developing, and maintaining IT/CADD applications)?*

2. What do you need of the IT group other than servicing the infrastructure?

3. To what extent does your group perform product life cycle management *(on highways, bridges, etc.)?* Do you see the need to do it in the near future?

1. What are your primary operations - operating computer-based
   Sign/signal systems, informing the general public, sending out
   help trucks, and clearing information for maintenance and
   construction works? Any others? What is the rough break-down (%)
   of workload among them?

2. Where do the sources of the input that triggers your primary
   operations come from?(e.g., 911 dispatches, customers direct
   calls, internal maintenance crews calls)

3. How do you interact (e.g., exchange data) with the region's
   traffic group? How critically your operations depend on this
   interaction?

4. What entities would receive requests for actions from you? (e.g.,
   police, ambulance, towing services)?

5. How are those interactions currently taking place? (e.g. e-mail,
   phone, directly)

6. Is the ability to plan and control the use of IT more important
   or less important than the knowledge on traffic per se, for your
   TMC to do its job?

Department Of Transportation Regional Study

Trip Report

Region 1
Schenectady
June 16, 2003

Submitted by

ISR Consulting Services
Rensselaer Polytechnic Institute

I. Overview: The overall impression we derived from Region 1 was that they have a highly effective IT group. The Regional Director, Thomas Werner, has decided that the TMC would be managed by Pat Bennison, Manager.

In attendance for the Regional DOT Study Team were William Wallace, Cheng Hsu, Scott O'Connor, Howard Stoller, Kathy Weaver, and Eric Bryson.   The following managers attended the second meeting from the following groups; Dick Frederick - Construction, Robert Hanson – Planning and Program Management, Joseph DiFabio – Maintenance, Mark Silo – Design, Al Warzala – Equipment Management, and Bill Logan – Traffic & Safety. Lori Reese sat in for Ray LaMarco for Administration and Personnel.

In the afternoon sessions we met with IT, Design and Maintenance. The IT meeting was with Pat Bennison. The Design meeting was attended by Mark Silo, Dan Moore, Jim Boni, Lorinda Tennyson, John Izzo, Nick Stuto, and Brian Magee.

II. Regional Director's Meeting: The Regional Director views the biggest challenge as being that of getting the newer generation of IT personnel to work with functional groups to develop more integrated systems. He would like to see a statewide TMC headquartered in Albany, especially for crisis alerts.

III. Group Managers' Meeting:
Traffic: This department's main use of IT related services is the e-mail system. The group uses a few canned program packages and had very few homegrown applications. They have an IT liaison informally assigned and use about 1% of her time. When referring to Main Office's recent initiative to use a new system, Crash Magic, the group director decided not to use the software because it still requires manual review to ensure report accuracy. He did consider his group further ahead in their workloads then other regions. They do have CADD users in this group.

This is a low to medium use group.

Equipment Management: This department uses IT extensively for their day to day inventory management and purchasing systems. TADs is being used daily and all support comes from the IT group.

This is a medium use group.

Program & System's Planning: This group interacts with external agencies and entities. The regional GIS coordinator, Frank Williams, is in this group. Frank uses about 75% of his time performing GIS related work for the region across all groups. There is a great variety of information systems and this group is very IT savvy.

This is a heavy use group.

Construction: This group consists of many applications and the use of computers is intensive. They have developed their own software support and provide software support and installation services for contractors. The group is also increasing the usage of CADD files delivered from design to make changes which occur once the project is brought into the field. They have the equivalent of two full time personnel within this group performing IT related functions.

This is a medium use group but IT is core to its mission.

IV. Detailed Group Summaries

IT Group: The IT manager   reports directly to Tom Werner the Regional Director and indirectly to Bill Logan the traffic unit leader. He does not attempt to move IT type supporting personnel into his group. Due to this leader's focus on support and his relationships with members of the functional groups, he informally sees and uses staff members in different units as an extension to his IT specific personnel. He also has a staff member who is dedicated to residence support and is on the road 90% on the time.

This is a medium use group.

Maintenance Group: This group is awaiting the rollout of the MAMIS to replace the DAISY system. This group does have a few homegrown and customized applications such as their Photo Log Inventory system, and a tax map system for being able to contact land owners. While this group may not consider itself an IT heavy system user they have come to depend on many IT applications. There is a network of cameras in place on the interstate systems. In emergencies they dispatch personnel to assess the situations such as in flood possibilities. They also have a road weather information system which, coupled with forecasts, determines events such as icing. Critical in weather forecasting is determination of when the winter storms begin.

This is a medium use group.

Design Group: The most commonly used applications are CADD, Inroads and MathCAD . They typically don't create many applications themselves. Most of the homegrown systems have been replaced with standard applications in the last few years. Much of the IT related software support is entirely contained within the region. Rather then having one or two in house experts however, they appear to have a culture which freely shares software knowledge and abilities with each other on a regular basis.

This is a heavy use group.

Department Of Transportation Regional Study

Trip Report

Region 2
Utica
June 6, 2003

Submitted by

ISR Consulting Services
Rensselaer Polytechnic Institute

I. Overview: The Regional Director, Frank Gerace, is in the process of transforming his region into a customer focused organization. He noted that internal communication needs to improve, and that the IT group uses technical jargon that user groups and the regional director may not understand. This behavior tends to break down the communication flow concerning IT within the region.

Those on the regional IT study team present were William Wallace, Cheng Hsu, Scott O'Connor, Howard Stoller, Kathy Weaver, and Eric Bryson. While in region 2 we met with the group managers from the following groups; Frank Fanelli – Real Estate, Stephen Zywiak – Design, Charles LaMendola- Administration & Personnel, Jeff Kral – Equipment Management, and Clyde Jasinski – Planning & Program Management. The following personnel were also present during the group managers' meeting representing their groups' interests; Michael Murphy – Maintenance, Bob White and Neil Palmer – Traffic, Chris Down – Construction, Linda Lubey – Design and Mary Matteson – for Real Estate.

Later in the day, we interviewed personnel in the design, maintenance and IT support groups. The following personnel had an opportunity to discuss with us their situations and concerns. From the design group, Steve Zywiak, Rita Carlson, Dave Dare, and Mike Geltuso; from maintenance, Michael Murphy, Kim Falbo and Nadine Lawrence, and from the regional IT support group Tim Weigel, Sean Burke, Tom Diodati and Dan Cabic were present. Regional personnel staff Charles LaMedola, Sharon Lewosko and Kathy Frederick also attended.

II. Regional Director's Meeting: The Regional Director sees his regional automation group in a support role. He wants the IT staff to become more customer focused by providing the support services needed by the program areas to be their jobs and to be organized so that a program area knows who will respond to their Help Desk calls.

III. Group Managers' Meeting:

Real Estate: The main tasks for this group involve real estate acquisitions, sales, and rental of real property for the region. They also administer the Sign Control Program for the advertising signs located on state highways. Customers for the services from this group are typically the general public. The group uses a number of homegrown legacy applications, supported by their IT liaison. During a recent opportunity to upgrade to MS Access, they choose not to migrate primarily because of end-user training issues and because of compatibility with the Main office. They currently have difficulties getting Q&A working smoothly within the windows platform, but they have developed a workable solution. A recent JAWS installation for a specific user also involved much of their IT liaison's time. Help Desk does not support many of the applications found in this unit.

This group should be considered a medium to heavy user of IT.

Traffic: This group provides traffic flow information and accident reporting. They also maintain data records on regional roadways. They are taking on the responsibilities typical of a regional TMC. Their existing customer base consists of other DOT groups and the general public. They have not upgraded their dBase applications. It appears that the group is not using the Help Desk except for hardware and network issues. The IT liaison views his role as customer service,

although he admits to performing mostly ad-hoc querying and reporting from among the existing systems. They compile accident records and reports not associated with

construction for their customers. Traffic also supports a delayed time traffic reporting ability which is updated twice a day for major sites and highways. The information is collected by the maintenance group. This traffic group has a number of legacy systems with multiple installations of dBase Apps, many of which were done in BASIC. Much of the current work is still done using Quarto Pro macros.

Bus and truck Inspectors are located within this group. They use onsite laptop computer systems to perform inspections and collect data.

They currently also send information to Region 6 (Hornell) for them to update a website which provides 24 hour services for the 'Inter DOT' network reporting.

This group is evolving into a heavy user of IT.

Planning & Program Management: This group is responsible for managing long term construction plans, performing needs assessment for pavement and bridges and maintaining affirmative action information using the CHIPS system. Much of the daily work is done through PSS using mainframe systems and applications. Issues with the mainframe systems usually go through Main Office counterparts, most of whom are now part of ISB. The only other main concern which was raised was the issue of support for password problems.

This group is a medium IT user group.
    .
Equipment Management: This group's main use of IT revolves around the need for managing parts ordering and replacement. They also maintain inventory and maintenance records of their equipment. The group uses a mainframe in Albany for the Repair Parts Management System and they use a stand alone bar coding system running dBase V for inventory management. They also had a standalone accounting system which is also tied into this bar-coding system. A new state-wide fleet management system is being implemented in all regions by the main office. Almost all support came from the regional IT staff and contractors hired by main office. Now the Help Desk is used for both hardware and software support. The manager of this group, along with one assistant and a secretary take care of almost all issues relating to software for this group.

This group is a medium user of IT.

Construction: This group's mandate is to monitor and work with contractors on new construction projects. This group has a continually changing number of field offices. Currently all hardware related issues are the contractors' responsibility. The specialized software which is uses CEES is the regional construction group's responsibility. The IT liaison in this group is responsible for software support for these contractors. He typically calls the Help Desk for 10% or less of work required. Of course this will depend on the extent of the problem. This group is a medium user internally and supports medium users externally (contractors).

Administration & Personnel: This group supports all other units in fiscal and personnel matters. This group works with Kathy Weaver and other agencies, such as Budget and Civil Service. The main applications are standardized statewide and delivered through networked sessions on external servers. There is an internal application which was developed in region but the norm is to go through Main Office and work with external entities.

This group is a heavy user of IT.

IV. Detailed Group Summaries

Maintenance Group: The primary users of IT in this group are the Transportation Office Assistant IIs (TOA) and office supervisors. This is the largest group in the region and they rely heavily on DAISY. The main purpose of the current system, DAISY, is for time and project accounting. There are 6 installations region wide which have different patches applied and the database file is e-mailed back and forth and then complied, which could lead to many errors. Much of the interdepartmental and interagency communication is manual. For instance, calls must be made to the Dig Safely NY Hotline number. These communication systems are not automated. Email is typically the most used medium for communication throughout the region to convey information, however not everyone has it and is some instances people weren't even aware if a segment of the network was down. Drivers and others typically use radios to convey information. The prioritization of work scheduling was also somewhat unclear. Decision making regarding prioritization for work orders appeared not to have any clear and definite rule base for when projects are scheduled. Overall the TOAs felt that there was a lot of data entry, but very little ad hoc query and reporting system capabilities which they would like to see. The maintenance workload breakdown translates into ~20% emergency, ~20% demand and ~60% planned.

This group is a medium user of IT.

Design Group: This group's history of computer usage is longer then many other groups including IT and therefore has developed its own self support attitude and culture. This group handles all road designs, GIS, and structural design work. They view regional IT support as a hardware & network only support mechanism. Due to the nature of the CADD work, most users in this group are technically educated. This could lead to problems if not corrected and modernized. Dave Dare is the IT liaison for the group and is an expert with CADD application related issues. They typically go to Help Desk about once a month. They are training about 5% of the time and updating CADD systems continually. If Dave cannot handle a problem, he will go Main Office CADD group. This is a young group with an average age of less than 45.

A sub group within design is structures. They have many legacy systems from main office. Of particular interest are the six vulnerability systems and some of the public domain programs in use. It was very clear that the regional IT is not supporting structures.

This group is a heavy user of IT.

IT Support Group: Members of this group who had the opportunity to convert their titles to senior computer programmer analysts choose to remain as civil engineer 1. While the grade 20 versus grade 18 distinction is obvious, they can no longer climb the engineering career ladder nor can they climb the IT professional's career ladder. This group very rarely calls the Help Desk directly except if there is a system down or the network is down. Usually peer level support among themselves and with their main office counter-parts is solicited directly. For walk-by requests, the IT manager's instructions to his staff is for them to open and close tickets themselves or have those being assisted call Help Desk. In some Help Desk tickets, help was provided by someone else (typically from main office). They estimated that ~80% of tickets work is done here and ~ 20 % of Help Desk is solved in main office. This makes up about 75% of their workload. Typically the other 25% of workload consists of such things as training when new projects are rolled out, and working on special projects. The IT training room is used between 5-10 % training others and the IT staff spends about 5-10% of their time being trained. There was a desire on the part of the IT group to move from a fire fighting mode to a proactive one, and that they should work to develop a regional IT plan and a training plan for their staff.

This group is a medium user of IT.

Department Of Transportation Regional Study

Trip Report

Region 3
Syracuse
August 7, 2003

Submitted by

ISR Consulting Services
Rensselaer Polytechnic Institute

I. Overview: The talents and diversity of the staff results in the IT group having a high level of expertise. The organizational skills of the previous IT manager, Sondra Smolen, provided a strong foundation for this expertise.

The regional IT study team consisted of Cheng Hsu, Scott O'Connor Al Wallace, and Howie Stoller. The day began with a meeting with the Regional Director Jon Edinger. A group manager's meeting followed with the following in attendance; Sidney Kaine; construction, John Fietze; Design, George Doucette; Traffic Engineering and Safety, Tony Ilacqua; Executive Office, C. Richard Gay; Administration and Personnel, Curt Clark; Maintenance, WJ Aaserud; Equipment Management, Ed Goodsell; Acting IT manager, Steve Vetter; Planning & Program Management, Bill Guyder; Real Estate. Next the regional study team had a working lunch with the IT group which consisted of Ed Goodsell, Diana Miller, Don Burlew, Kathi Tamer, Jim Jaskula, and Chris Mueller and Sondra Smoleh.

The afternoon meeting began with the maintenance group with Jeff Church and Curt Clark. This was followed by in depth discussions with the design team consisting of Ed Wilday and John Fietze. Diana Miller closed our day with a talk about the TMC in Region 3.

II. Regional Director's Meeting: The RD addressed the need for separate IT funds in order to not have to rely on the functional groups. The region doesn't have IT funding, rather different functional groups have different funding streams from Albany. Destiny Shopping center will most likely be developing a major new shopping center within the next few years. The region has over 150 signals connected using fiber optics, and is to get almost complete video coverage for Interstate 81 throughout the region. They will be working with the state police and 911 dispatchers.

III. Group Managers' Meeting:

Program & System's Planning: The largest used applications are APV, a department generated program management tool, and PSS. This group also has a number of other systems which have been built for supporting requests from legislators. This group has a GIS staff that is using GIS for outreach programs. Traffic count locations have been incorporated into GIS applications. Files are shared with county and other transportation councils with ARC View files. The PSS system is very cumbersome, time consuming and prone to errors. This PSS system is considered a wish list of data elements rather then a usable assortment of smaller relational databases which are needed by others in the region. The preset reports in PSS are typically not very useful, thus this group relies heavily on Crystal reports. This group has become aware of the differences between regional data versus corporate data. Work types may change during a project.

This is a heavy use group.

Real Estate: The main database system was built in Q&A. They haven't begun developing in Access yet, because they are waiting for a new Bentley system. Spreadsheets are used extensively. This group is very self-contained with at least three people who are PC savvy. Most local communication is done via e-mail.

This is a heavy use group.

Equipment Management: The inventory control system which is barcode based is very good. However the developer from the main office has retired and support questions for the system have been raised. All purchasing of equipment is from state-wide contracts. Cummings and International provide software support while the IT group provides the hardware support.

Construction: SCRIBE was a homegrown application which has since been sent through out the state. Unfortunately the developer recently retired. The majority of contractors provide personnel computers for the construction engineers. They have about 60 computers which are completely supported by the regional IT group. The 'As-Builts' are paper based. This group has one person who is beginning to use electronic records of the design files. There is no project management tools in use; CEES is used primarily for payment only for contractors. Newer CPM requirements in contracts are satisfied through the use of consultants and CPM specialists. They use SureTrack rather then Primavera.

Construction would like to get to a point where they can relay their onsite expertise back to the design teams. A highly talented IT savvy person just retired and now all support comes from the IT group.

This is a heavy use group.

Admin/Human Resources: Most work is typically through telnet services with other agencies. There is virtually no development within the group. They also encounter the three redundant data entry points with civil service, comptroller and ARS (workman's compensation). Check distribution is this group's responsibility.

This is a heavy use group.

IV. Detailed Group Summaries

IT Group: About 50% of the servers are filled with road photo logs. There is a major need for a document management system. The regional IT has a very diverse group of talents and personnel. They had to get people into the IT group any way they could, and have recently been able to get computer titled positions. Some of the staff had to learn on the job. Many of the staff has gone to school to improve themselves and enhance their skills in the computer field. This group has been infrastructure based for over 10 years, and has developed other aspects of IT support recently. The culture at this region considers engineering the most important function of DOT.

Functional support and application support have been well defined by this IT group. Every group has specific application support people for different applications. The IT group has developed a strong presence as the network support group, and standard office application support.

This is a heavy use group.

Maintenance Group: The road history files are recorded and then used by design. They have two squads which perform design type work including bridges. About half the snow plowing is outsourced. GIS implementations have increased.

Most emergencies centers within the region have become connected with the residencies. These connected groups know each other well, and have learned to rely on each other. Recent events such as last year's ice storm showed how valuable IT has become to this group.

There are no standards established for purchasing video equipment and the relevant software. This group would like to have a device in every truck.

This is a heavy use group.

Design & Structures Groups: The level of support has changed since implementation of the helpdesk. Typically, they circumvent the Help Desk 1/3 of the time. This group has an expert in CADD within the group. There are a couple informal support personnel throughout the group depending on the applications. CIS response is considered not bad, however still is not as good as it was when CIS support was on site. Typically when the CADD support from regional IT is in the Design area, she handles many other issues, which may not be reflected in her tickets. This design group does the work 'in house' on 20 to 30 projects per year, and out sources approximately 2-3 projects per year. After getting help from someone in CIS they will contact that person directly on future issues. Files are transferred to construction electronically.

This is a heavy use group.

Department of Transportation Regional Study

Trip Report

Region 4
Rochester
August 18, 2003

Submitted by

ISR Consulting Services
Rensselaer Polytechnic Institute

I. Overview: The IT group here has developed a long term strategic perspective regarding their role within the region. The region chose to lay fiber optic under their main corridors and, with the help of a sophisticated GIS user group, has capabilities for future GIS applications.
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In attendance during the morning meeting were Gordon Wilusz, the IT regional Manager, Mark Fuller, Kevin Cornish, and David Squier. Tracey Long, sat in for the regional director. For the regional study team Cheng Hsu, Scott O'Connor and Howie Stoller were present.

We had a working lunch with the IT staff and Tracey Long and then returned to meet the group managers. For the Group manager's meeting the following personnel joined us, Kevin Bush, and Brian Holmes; Maintenance, Rick Van Doyen; Equipment Maintenance, James Mayes; Health and Safety, Pamela McKeon, and Richard Hartlieb; Administration, Dan Howell; Real Estate, Ronald Cianfrini; Support Services, Brian McMahon; Design, Larry Siterman; Traffic, Daniel McCusker and Joan Dupont; Planning.

After this meeting we met with the Maintenance group led by Kevin Bush and Brian Holmes. In addition, resident engineers attended: Tom Heck, Michele Mills, Jeff Dunlap, Greg Kerrick, Edwin Button, and John Starke.

II. Regional Director's Meeting:

Tracey Long sat in for the regional director, Charles Moynihan. She is the regional support manager. This region is taking a leading role in the transformation process. The main issues raised were the need of more staff, access to information from Albany and an increase use of Black Berry Technology. This region also uses video conferencing extensively, and frequently permits other state agencies to hold conferences using its facilities.

III. Group Managers' Meeting:

Program & System's Planning: This group initiates projects and processes data from many sources. It also manages data about the road conditions. As the scope of the project gets defined, they circulate paperwork to all the other groups. Many of the PSS shadow systems have been replaced with Access based systems rather then using Crystal reports. Much of the support is provided informally and casually.

This group is very IT savvy and works with many departments. This group has built a number of databases specifically for the region's own use. These databases are supported within the region and Kevin Cornish is the main support for many of this group. A member of this group, Dan McCusker, has and continues to develop applications (typically Access databases) for maintenance, traffic and safety and many other groups. Some of his databases will be implemented statewide.

The GIS coordinator is also within this group and holds a master's degree in GIS. This region has led the state in many GIS implementations. Separate databases are built for each GIS application and there is much collaboration bringing GIS apps to an even higher level. This coordinator has formed a GIS user's group and trained many in the region.

This is an extremely heavy use group.

Real Estate: This group continues to use Q&A. They like PSS and understand its real value as a data warehouse. Mark Fuller supports most of the Q&A applications. They are looking forward to the replacement for Q&A with a newer Access system. Albany hasn't really provided any standards for the real estate groups since 1986. Some use Access; others use Q & A.

This is a light use group.

Equipment Management: This group uses Access databases to track equipment and personnel information. These are duplicate/shadow systems which provide better reporting capabilities than TADS. Currently there is no statewide system for equipment management. This group has developed its own applications in Access, using between 15-20% of the manager's time and 25-30% of one employee's time. This group has 9 locations with 42 employees.

This is a medium use group

Construction: The manager questions the value of having CADD machines in the field. Aside from contractor payment system there is little IT usage.

This is a light use group

Training & Administration: Uses most of the statewide systems and standard applications. There are few localized applications with support provided through help desk and other state agencies. The training coordinator uses training management software (TMS), an Access based application, and focuses on providing training for users based on their specific needs.

This is a heavy use group.

Web Content Coordinator: Much of the skill development has been self taught using Dream Weaver. Information comes in many different formats and types of files. The coordinator would like to see live feeds incorporated into the web site and needs a test server to verify her files.

IV. Detailed Group Summaries

IT Group: This group was formalized in 1999 and has developed informal areas of expertise. Sarah is the newest addition and works on helpdesk tickets about 75% of her time. Mark Fuller came from maintenance and focuses on network administration and becoming the helpdesk responsible for the Daisy rollups. About 50% of his work comes from helpdesk calls. David Squier is the CADD liaison and approximately 50% of his work comes from helpdesk. David identified that use and organization of CADD files needs better control and organization. Kevin Cornish is a temporary contractor who spends about 80% of his time on tickets.

This is a medium use group.

Maintenance Group: This group would like to see more GIS applications but doesn't have the capability or time to develop them. Residence expertise has developed GIS applications and designed a very effective system. There were three design locations but due to the early retirements and hiring freeze they have scaled back to one location. During last year's ice storm, they were able to provide emergency management personnel with GIS maps updated daily. Highway assists and GPS would be valuable tools.

Through discussions with the residence managers and engineers, it was determined that the road histories and knowledge is acquired at the residence and sub residence level. The use of GIS in the residency and the IT initiatives in Monroe West were very impressive. The "As-Builts" are all modified on paper files but not recorded electronically.

This is a heavy use group.

Design & Structures Groups:
This group has formed a CADD user group and a PC user group. With the use of newsletters, information is disseminated throughout the region effectively. They provide time for their employees to accomplish these important tasks. Thus, the design group has developed an IT support group of 4-5 experts who spend 15-20% of their time supporting others.

This is a heavy use group.

Traffic Engineering & Safety:
The TMC reports to this group. In this function the TMC works very closely with Maintenance. The fiber laid through the bay bridge and the main corridors was initiated by the ITS group. Thus, they have networking ability throughout the region. Whenever a new project is being scoped ITS puts its perspective into the planning. This group also is charged with many of the permitting requirements for the region.

Having a quick response and centralized deployment for maintenance and safety has helped to foster a very positive relationship with the police force in the region.

This is a heavy use group

Department Of Transportation Regional Study

Trip Report

Region 5
Buffalo
August 20, 2003

Submitted by

ISR Consulting Services
Rensselaer Polytechnic Institute

I. Overview: This region's geographical location provides it with the largest volume of international traffic in the state. We began with a discussion with the acting Regional Director, Al Taylor. Brian Rowback; the previous RD is currently heading the transformation process. The IT manager is Bill Moll.

In our group manager's meeting: Christopher Church; planning, Bob Dalfonso and Jim Barnack; Traffic & Safety, Don Pochopin; Equipment Manager, Tim Bilowus; Construction, Keith Stanczewski and Tom Moore; Maintenance, Tom Messana and Pat Calhoun; Design, Wally Nellenbach and Karen McAndrew; Real Estate, Denise Wilson and Mary Saviola; Administration and Human Resources.

We had a working lunch with the IT group, William Moll, the IT manager, Perry Taglienti, system administration, and Scott Johnson, application support management. Afterwards we met with Maintenance, with Tom Moore and Keith Stanezewski, and Design with Tom Messana and Pat Calhoun.

II. Regional Director's Meeting: The major sources of frustration observed by the acting RD comes from the fact that the information he needs comes both electronically and on paper. The filing and retrieval are based on how information is received rather then based on its content. Paper based systems are quickly becoming outdated. There is a need to retrieve information without having to waste time looking and sifting through paper records.

III. Group Managers' Meeting:

Program & System's Planning: This group separates its main activities into three functional groups: Program Management, Planning, and Rail divisions. The rail inspectors use laptops from the federal government. Within planning, the scoping of projects is now done by a single person, down from twelve people a few years ago. Project management has focused on budgeting for capital programs which are now almost non-existent. IT services have been greatly reduced in the last few years due to lack of new funding.

This is a light use group.

Real Estate: This group uses parts of Q & A, and have hired part time summer help to transfer data and prevent the loss of data. They also use GIS systems to locate surplus property by case #'s and are in the process of transferring ~ 18,000 maps to digital form and making them available on CD's.

This is a medium use group.

Equipment Management: This group raised an important communication and integration concept regarding the ability to inform its customer, Transportation Maintenance, as to the status of their equipment repairs. They manage about 5,000 work orders per year including preventive maintenance (PM) services, by scheduling to have available during PM services rather then having to do repair work during non-PM service times.

Construction: All the designs are transferred electronically to the contractors. This group is beginning to use CADD files in the field more often**.**

This is a heavy user group.

Human Resources: This group uses the standard statewide applications.

This is a heavy user group.

IV. Detailed Group Summaries

IT Group: This group is very effective and maintains a strong positive reputation within their region. Due to the distances in their region they need a vehicle at their disposal and would like to volunteer for VPN services. The GIS coordinator is in this group. The IT group recognizes the need to address the problem of disconnected and redundant information gathering and recording. They would like to take a more proactive role in developing and supporting newer integration and software implementation. The main office should be responsible for providing standard applications with the regional office capable of customizing. They would also like to see better training for software and networking applications.

This is a heavy use group.

Maintenance Group: This group would like to see an IT person assigned to maintenance to work on specific issues to support maintenance. This person should have training in level one computer assistance, to serve the residences. They currently have two staff members who are in computer support roles. However this role is adjunct to their main jobs and the individuals should have more training. They expressed a desire to have a software integrator. The group had a GIS person who was promoted to another position and his skills and time were lost.

This group uses a bridge history system (BREWS) extensively. This application is used to schedule work orders. Other work orders are initiated at the residences. They receive the bulk of the phone based requests and typically initiate most of the work orders. They use a vegetation management system and many localized systems for managing many of their functions.

We also discussed future ideas regarding the development of critter corridors, electronic eyes and better vegetation management in the areas of high animal usage and crossings. They would also like to see the development of an IT culture that can use the education and training provided by industry. There is also an increase in workload coming from the TMC. Residences and Sub Residences need faster lines and perhaps should be part of a VPN pilot project. They would also like to see better document filling structures which should be standardized by residences, region and state. This standardization should come from the main office. There is no real time accurate accounting mechanism which maintenance can use to balance their books and gather current account information. If Albany decides to freeze the accounts, as they have in the past, the residences are stuck and can't cut PO's for their needs.

This is a heavy use group.

Design & Structures Groups: This group uses many standalone products and keeps files for projects in their own directories. The design process has multiple parts which are managed by many different people with their own data. There is no uniform document management system to make seamless the transfer and storage of the files. This problem becomes even more difficult when main office personnel are used as design engineers by the region. When someone tries to retrieve information about a specific project, it could be a daunting task to gather and retrieve all associated data. Copies are on local machines, regional network servers, in Albany, and on paper.

They estimated that 40% of the designer's work is spent on CADD files for design. Approximately 60% of the designer work is spent working the information through the system and reworking. This includes the requirements for the EPA, DEC and other federal and state and local agencies for process and presenting the preliminary designs. Environmental impact statements are labor intensive. When a project is approximately 90% completed, the plans are sent to the residence engineers for final comments. Once completed and signed off, the contactors get the designs electronically. Regions 1, 5, 8 and 9 currently transfer files electronically to the contractors. In many instances the same designer will be involved with a specific section of road many times over the years.

Much of the information this group gets from Albany is based on pavement ratings or sign conditions but there is little information available for analysis of the causal effects of the design considerations. Also there is a need to know how much maintenance costs for problems compared to the cost of redesign. Costs are not associated with specific segments of road. Most of the work tends to be piecework.

Most work for design comes from the pavement scoring system through the maintenance team, traffic and safety, planning and structures (Bridge Inspections). They also have one design engineer in every residence called a Resident Program Engineer that reports to the residence engineer.

This is a heavy use group.

Traffic Management Center: Because of the high volume of international traffic, this TMC is called Niagara International Transportation Technology Coalition (NITTC), funded by NYS DOT, NYS Thruway Authority, Erie County and MTO from Canada. This is an international collaboration with 14 transportation agencies and many additional federal agencies are involved. There is resistance to involve ITS into projects (i.e. laying fiber in I-219). They would like direction from planning and design to develop and move ITS with long term scoping rather then piecemeal work. The equipment at NITCC is owned by the DOT at NITTC, and the question of whose responsible for the maintenance and control has not been resolved. The liability is DOT's but the managerial control is currently NITTC's.

Department Of Transportation Regional Study

Trip Report

Region 6
Hornell
August 19, 2003

Submitted by

ISR Consulting Services
Rensselaer Polytechnic Institute

I. Overview: The regional study group consisting of Howie Stoller, Cheng Hsu, and Scott O'Connor began the day by meeting with Jack Cole, the regional IT manager, and Peter White, the regional director. Next the team met with the regional managers consisting of Chris Giles; acting regional construction engineer, Glenn Meteer; Real Estate, Richard Woodard; Administration, Gary Funk; Traffic and Safety, James Clement; Planning and Program Management, Ron Mauro; Structures, Paul McAnany; Design, Mike Griffen; assistant to the RD. and Timothy Alimossy; from the Transportation Operations Group.

The study team then met with the design and structures group, Andy Williams; design, Brian Kelly; bridge inspection, Douglas Johnson; survey & right of way mappings, Mohan Rao and Mark Norfolk; structures. Managers Paul McAnnay and Ron Mauro also attended. We had a working lunch with the IT group, Jeff Wilson, Karen Patterson, Marcy Northup, and George Spitz attending. In the afternoon session the regional study team met with Gary Rice representing maintenance. Lastly the group met with the operations center team consisting of Lynne Schilling, Carl Washburn and Bill Platt.

II. Regional Director's Meeting: The Regional Director is very supportive and progressive with regard to IT integration within the region. He believes the regional IT group should have their own budget. He also believes that GIS applications should be the foundation for many of the information delivery services for managers and customers. Because Transportation Maintenance operates its TOC on a 7/24 basis, the TOC is used to collect information for the Winter Travel Advisory System. The regional director also envisions the use of GIS based file management system. The current document management systems are narrowly focused to support design, construction, planning or real estate group activities. None of these systems takes a statewide focus. The regional director previously worked in Region 4, and while there was involved with the RWIS installation and was it also his initiative to record road histories using GIS .

III. Group Managers' Meeting:

Program & System's Planning: The main functions of this group are accounting and budget control. They view PSS as being a dinosaur built for everyone but not practical for anyone. While this group has used the accounting portion of the system, they find the additional features very difficult to use. The group has built a number of shadow systems but they are having a difficult time converting their old dBase data applications. They have started using GIS as a common platform for Access data. The GIS coordinator is in this group for the region, and is trying to have GIS support decision making using graphics. Planning calls on every other group to make scoping decisions. Most of design data comes from CADD review and electronic data from completed projects. Traffic counting process is now automated with data downloaded and sent through wireless transmitters to the main office.

This is a heavy use group.

Administration /Human Resources:
This group is very concerned about their dBase based applications for accident data recovery and fear of losing historical data. Users can get help locally faster than through the Help Desk. Personnel enter data into different applications provided by other agencies. There has been some movement towards web based applications with the other agencies which makes continued internet access important.

This is a heavy use group.

Real Estate: One of the first groups to embrace IT, they began with the Q&A system and continue to work with it. The main use is in the agreement process. GPS is used to local surplus property cases. The main IT support person in this group recently retired. Regions 6, 8 and 1 are being used as test sites by the new Bentley system.

This is a heavy use group.

Construction: This region is being used as a pilot test for providing laptops to the contractors. They have about 30 to 40 locations, and have one person supporting the field office and the residencies. There are many paper documents and would like handheld systems to update and modify records automatically. This group would also like to see future budget forecasting related to applications. The As-Builts are done on paper. This group has developed a quasi-merged entity system with the maintenance group.

This is a heavy use group.

Administration /Human Resources: The manager is very concerned about the group's dBase application for their Accident Data Recovery System, afraid of losing the historical data. Help Desk typically cannot satisfy their requirements.

This is a heavy use group.

Traffic Engineering & Safety: This group collects data from the DMV system. They have been waiting for an application which would plot accidents onto maps, that Region 11 presented to the state a few years ago. This group is still very paper based and manual. This manager feels that the Help Desk does not handle requests out of the normal.

This is a light use group.

IV. Detailed Group Summaries

IT Group: This group has developed their own knowledge base system. As a network gatekeeper, they help groups and users to integrate information. They have a NAS server set up in which information is organized by corridors. The users don't understand that all the information is DOT's; many end users consider their information personal. In the residences, the

resident engineers are happy to be connected and have asked to save their data on servers. DAISY and CES still require writing to floppies prior to writing to the hard drives.

One staff member came from CADD as a designer, felt that her personnel growth is good but for her career path she needs to stay as a civil engineer. Some personnel took demotions from grade 20 engineering titles to grade 18 computer titles and two years later, have not still been promoted to grade 23s. The State does not provide incentives nor does it reward employees who continue their education and get industry certifications.

In some residencies, users will typically call someone they trust rather then calling a stranger on the Help Desk in Albany. The Help Desk does not have a mechanism for redirecting calls from regional IT staff. On more then one occasion IT support staff has called ISB helpdesk only to have the very same ticket assigned back to the person who made the call.

This is a medium use group.

Maintenance Group: Construction, Maintenance, Traffic, and EM are coordinating their services in the TOC. This group has begun accepting resumes and job referrals via e-mail. The Regional Maintenance Engineer will have these four groups reporting to him. During the summer the construction activity within the region is reported using the Web. Operators have trained personnel from construction to help design their own projects.

There are a number of customized spreadsheets and small databases. They continue to log road histories files on paper in a journal. Data from the supervisor's daily report (SDR) and a rest area monitoring system are loaded into Dbase or Access files. They would like to see more ARWS systems implemented and more video cameras and more VMS systems installed permanently.

This is a heavy use group.

Design & Structures Groups: Design has become a training ground for IT, but they have lost many of their talented staff. Integration of progress plans and progress status should be transferred electronically. This group is very IT savvy and is moving extensively into GIS implementations. Individual managers are forced to shift staff onto IT projects, thus not meeting mandated responsibilities. Consultants are used extensively. Plan specifications and estimates (PS&E) are sent to the main office via paper based systems and then converted to the final microfiche storage. They still use the SEALS program in addition to Inroads. This group likes the Winbolts application.

This group has over 36 non-standard applications currently in use. Micro Soft Project is used for critical path scheduling on the major projects. Structures BIPPI and Winbolts along with state laws require massive amounts of IT resources specifically for the photo storage. This group also questioned the integrity of some of the data from Albany. In some cases, the data cannot be changed by the design engineer who knew the data provided to the public was incorrect.

This is a heavy use group.

TMC: This group began as a maintenance operations center and then traffic was brought into the process. The sensors in the field are running a proprietary wireless connection using solar powered connections to provide video streaming system. There are automated triggers for traffic flows, and temperatures. They have 5 dispatchers and have handled approximately 2,200 calls already this year (8 months). This region works with 3 different NYS police troops and 6 different sheriff departments. Typically this group is in a role of a communication services hub, including ice and road clearing services through the residencies.

This group supports much of their own equipment and relies on a combination of IT and maintenance (for truck to get up to the cameras) and similar activities. One staff member came to the ops center from the IT group, and had also spent time in maintenance. All tracking is stored in a database written by a staff member. The operation center is centralized within the region. When Watkins Glenn's major weekends and during air shows they use portable VMS to help re-direct traffic and inform drivers.

This is a heavy use group.

Department Of Transportation Regional Study

Trip Report

Region 7
Watertown
August 6, 2003

Submitted by

ISR Consulting Services
Rensselaer Polytechnic Institute

I. Overview: The main question raised was "Is IT here to support DOT functions or is DOT to support IT functions?" This concern revealed the lack of understanding of the purposes for IT and the need for statewide standardization.

The ordering of the IT meetings was different from our typical visit. We began with Design with William LaSage, Theresa Mehaffy, Mark Schlindweih, Robert Curtis, Ken Bibbins, John Disbro, Ernie Reape, Yasser Ibrahim, Bob Townsend, Jeff Grill and Dave Moffatt attending. During lunch we talked with the IT group consisting of Mike Benson, the Guy Kelly, Jim Durand, Angie McDougal, and Jan Rowsam.

In the afternoon sessions we meet with the group managers with the RD in attendance. R. Cary Babyak – Regional Director, Jeff Carpenter – Construction, John Cook – Maintenance, Martin Percy – Traffic Engineering, Terry Williams – Safety, Shelia Sholette – Personnel, Steven Masin – Equipment Management, Robert Curtis – Structures and Design, David Hart – Planning, and Brian Martin – Real Estate, and Mike Benson – IT. After the regional managers meeting we meet with Maintenance; Valerie Rust, Dennis Pawlicki and John Cook attended. We concluded with by meeting with the Regional Director.

Throughout the day regional personnel expressed little respect for the main office IT "decision makers". They find it frustrating to be responsible for millions of dollars worth of roadways, bridges and safety issues but can't buy their own printers. There tended to be a lot of cynical attitudes towards ISB and the main office in general.

II. Regional Director's Meeting: The RD believed that the high degree of frustration many of the users expressed simply "came with the job" of the IT manager. A high percentage of staff members in this region are working here because of the location or family ties.

The RD was very concerned about their ability to retain IT personnel, especially given the sparse population of his region. This is also the largest region geographically, with travel times of 3-1/2 hours between 2 of its 3 biggest cities.

There is a sense of "who is serving whom?" He would like to see less centralized control from the main office, empowering the region to make more IT decisions.

III. Group Managers' Meeting:

Program & System's Planning: This group had very few comments but did express concern over the many antiquated applications. Although falling short as a critical path planning tool, PSS was used as a data warehouse.

This is a heavy use group.

Traffic Engineering & Safety: There are two main international borders crossings and a large number of smaller crossings. Live video feeds were removed in the Plattsburgh area due to

bandwidth issues. The IT group has most of the signing and camera responsibilities within the region, there is a lack of trust in computer controlled signs.

This group is using many of the standard office applications. There is a need for the permitting process to be reworked; a new program is supposed to be coming from main office traffic. They communicate with the Canadian government (Ministry of Transportation) and the State police. Amber alerts come thorough Region 6. There is a growing need for monitoring border crossings.

Equipment Management: This group is happy with the current barcode system, and has concerns about IT support for specialized engine troubleshooting software from third party vendors (Cummings engines and International).

Construction: There is an IT support person in this group. With the possible growth of DOT owned laptops rather then contractor supplied there was an issue with the possible strain on IT personnel. These are very similar to concerns raised by most of the construction groups interviewed. There are 8 field offices, and about 30 contractor PC's. The winter field office sites all have connected PC's.

This is a heavy use group.

Human Resources: This group re-confirmed the idea that there are many redundant systems in other agencies. Typical support from the regional staff is for connectivity and networking issues. Application support is received from the agencies that "own" the software.

This is a heavy user group.

IV. Detailed Group Summaries

IT Group: This group noted that program managers expect IT to support specialized applications. Program groups in Albany compound the difficulties by releasing applications to the region directly without communicating with the IT group. Telecommunications issues with remote sites tend to also cause problems throughout the region.

The biggest issues on the horizon that they foresee will be supporting more people with more software. Issues like TADs, MAMIS and additional responsibilities will be added without additional staff. In conjunction with the expanded services, there is also a need for more software training.

This is a medium use group.

Maintenance Group: There were many issues raised regarding the control and perspective of the maintenance director. Why can't an engineer just buy a "$85 printer"? With regard to file management, he finds it cumbersome to get files, especially since files permissions cannot be managed by the individuals. Copies of electronic media must be sent from person to person rather then allowing access to users directories.
Overall the group manager believed that it was odd that he could be responsible for million of

dollars of allocations but cannot decide what printers he can or can't buy. He would like a DOT approved list for him to purchase printers. About 1/3 of winter work is outsourced to counties, towns & village. There is some design work done in Plattsburgh, and a growing need and interest in developing more. There is also a significant use of older DB applications which need to be replaced. They feel that they don't have much choice in their IT initiatives.

Weather forecasting is based on acu-weather and the national weather service. There are temperature sensors on some snow plows and there is an increase in automatic tools used to do their job, which will increase the usage of IT services.

This is a heavy use group.

Design & Structures Groups: Most application support comes from within the region and from four experts with the design group. Typically they support MicroStation, Inroads, Storms and Sewers. The biggest issue in software support is a growing concern that applications expertise will be lost due to version changes and lack of use for periods of time.

There are also a number of self proclaimed IT talents within this group. One individual even believed that he should have the ability to manage his own partitions on his hard drive. Some believe the data on their own machines is more trustworthy than the networked server information. Networking problems due to the remoteness of the region causes issues for structural engineers in Potsdam and Malone (specifically the load rating system).There were complaints with the software issues in which patches and fixes take too long to be released to the regional office.

In one case an individual stated that the data fields had invalid data, thus causing problems with the results. There are many good parts in WinBolts, but again it was felt that ISB has problems with it (based on the LAN Desk distribution). The group felt that during crisis the current system would be dead in the water.

Helpdesk calls take long and don't give good results. Overall they were not very happy with ISB and CIS support from the main office. The group feels that IT and the helpdesk are roadblocks to their needs and they could do a better job managing their PC's themselves.

This is a heavy use group.

Department Of Transportation Regional Study

Trip Report

Region 8
Poughkeepsie
August 25, 2003

Submitted by

ISR Consulting Services
Rensselaer Polytechnic Institute

I. Overview: The regional study team consisted of Scott O'Connor, Al Wallace, and Howie Stoller. The team met with regional director Robert Dennison and Adrian Capulli the Regional IT manager for about 15 minutes. After which, a group manager's meeting was held in which Mr. Dennison attended. The group manager's meeting was attended by Gene Pinto; Richard Peters; Scott Geiger and Bill Gorton; Design, Mike Cotton; Construction, Bob Rella; Traffic Engineering and Safety, Mike Forget; Equipment Management, and Barbara Mattice; from the Regional Director's Office.

The study team held a working lunch with the IT group consisting of Michael Crimi, Michael Cook, Adrian Capulli, and Emerich Amrheih. The afternoon session was held with Maintenance and Design. Gene Pinto, Don Pencek, Sue Roth and Roger Griemsmann attended the maintenance group meeting and Ray Ackermen, Scott Geiger, Henry Carpino and Bill Gorton were present for the design meeting.

II. Regional Director's Meeting: The biggest issue the regional director sees is the legacy of a diverse IT group whose background comes from math, engineering and technicians. He would like to see the DOT outsource their IT resources to those who are expert at it rather then having the DOT be responsible for managing it. DOT should build and maintain bridges and roads not worry about IT management. However at the same time it concerns him that these contractors could leave tomorrow. DOT needs to have a management presence, but perhaps not completely staff and design every aspect of their TMC. He has a version that perhaps this TMC center could be a downstate center. There are many different systems in New York, Long Island and Region 8. He prefers to keep responsibility of keeping contractor PC's operational in the hands of the contractor. GIS in the regions is greatly underutilized. The director sees PSS as serving little purpose to him and his needs.

II. Group Managers' Meeting: The region has its own web site different form the state's website for traffic advisory information. Most groups have someone with some GIS expertise.

Program & System's Planning: They have four MPOs who use computer models to generate future traffic flows. They are NYMTC, Newburgh-Orange Transportation Council, Dutchess Transportation Council and Ulster County Transportation Council. They have three different software platforms. The results are typically accepted at face value.

Traffic simulation is not used within design. PSS has replaced most of their shadow systems. They have a program which uses scheduling and program costs and status of the design to provide the pin numbers. There is a new system called "Project Data" being distributed by the main office, again a "stove pipe" system. This group sees part of the problem is that PSS contains real time data which is constantly changing thus making last week's schedule not accurate with today's demand. The pin program is no longer supported. They need more forecasting tools; forecasting is done with paper based data. There is no document management system.

Regarding GIS applications and support, there are 2½ staff working as support for this group. The ½ is a retired person who is volunteering to help develop GIS applications. Most application personnel are self taught.

This is a light use group.

Equipment Management: This group tracks equipment status, preventive maintenance status and work load information all manually. They don't have the time and ability to develop automated tools, and hope Maximus Fleet Focus System will help. Cumming and International have new software which needs operators to put a laptop onto a truck engine for repair and warranty work. Most documentation is electronic from these vendors. This group will therefore need the ability to load software without having to go through the IT group regularly. All outsourced services regarding light trucks and warranty work is still manually done. The barcode system is LAN based.

This is a light user group.

Construction: They have 60-80 field offices. One staff member is the major IT supporter and implementer, with another person part-time. Due to retirement, and one person on military leave, they are currently trying to get a part-time consultant to support IT in the construction permanently. The group has another system which is being developed and will be moved statewide. Regarding "as-built," this group is working toward better understanding the deliverables from design and better utilizing designs work. They want to receive the CADD file from design into and through construction as electronic "as-builts". Training and the learning curve issues are yet to be resolved.

Typically the contractors redo the most of the design work because there are reliability issues. When a project is done there is no complete CADD file. The goal is to get to a point where the data which was collected during the design phases can be used at construction. In addition, they would like three-dimensional presentations of the data. They would also like to use CPM / Primavera type software for staging a construction job.

Most of the projects and work loads come from maintenance.

This is a heavy use group.

Human Resources: They use the typical applications.

This is a heavy use group.

IV. Detailed Group Summaries

IT Group: The use of consultants has its pluses and minuses. Good employees can be retained and poor ones let go. Unfortunately when good consultants are found they then have to fight to keep them every 15 months. One staff member came from bridge inspections, and another from planning. One took a grade 20 engineering title to a grade 18 demotion to a title in the hope of

getting a better career ladder. There is also a highway maintenance worker 1. They typically try to make people use the helpdesk to monitor their workloads. Construction wanted an IT person to support the field offices. The field office could then make Help Desk requests.

The personnel situation was again discussed, particularly the fact there are no promotion opportunities. The IT group doesn't have the staff or the desire to support the TMC. They feel that their RD does not want to support DOT employees; he would like it to be outsourced. This was a major source of frustration.

This is a medium use group.

Maintenance Group: The group has 9 residencies, 30 sub residencies and 4 bridge maintenances HQs, with about 611 employees. Tom Story has built an inventory system that is GIS based which includes all culverts in his residency. They do not oversee their own paving contracts. Some residences keep road histories, but there are many gaps in the histories. The IT expertise varies greatly from residency to residency. Some are very interested and others could care less.

This is a light use group.

Design & Structures Groups: Since the data from the DMV is 2-3 years old, they base their design work on information from 3 years ago. They have begun developing relationships with state police and information from accidents to help better design systems.

Once a year the group management within structures meets and hashes out with planning what bridges and structures to build and repair the following year. Scott Geiger is this groups IT liaison.

This is a heavy use group.

Traffic Engineering & Safety: They have a CE2 from traffic, performing IT work at the TMC.

Department Of Transportation Regional Study

Trip Report

Region 9
Binghamton
July 9, 2003

Submitted by

ISR Consulting Services
Rensselaer Polytechnic Institute

I. Overview: The overall impression derived from Region 9 was that the region, as a whole, has many IT savvy groups. The IT group maintains a professional relationship with other groups, and appears very competent and are content with their abilities. The IT coordinator Eric Eiche has 18 years of experience in this office, and is well respected by his colleagues. The Regional Director, Jack Williams was out of town for the day, so we met with the Assistant to the Regional Director, Andy Stiles. In attendance for the Regional DOT Study Team were Cheng Hsu, Scott O'Connor and Howard Stoller. The following managers attended the group manager's meeting; Mark Bowers – Planning and Program Management, Gus Kull – Real Estate, Frank Nachman – Maintenance, Andy LaPolt –Construction, Ben Gardiner – Equipment Management, Lesley Pelotte – Employee Safety, and David Staff – Human Resources. Jon VanVleet also sat in for Maintenance.

In the afternoon sessions, we met with IT, Design and Maintenance. The IT meeting was with Eric Eiche, Sterling Smith, David Macewan, Norman Troicke and Sue Greenman. The Maintence meeting was attended by Frank Nachman and Jon VanVleet. The Design meeting was attended by Mark Bowers, Tim Giblin, Kurt Buoline, and Robert Cork.

II. Regional Director's Meeting: We met with Andy Stiles, the assistant to the Regional Director. He conveyed the following points from the regional director regarding IT concerns within their region. First, they would like to see a better focus on interagency electronic communications with agencies such as the Department of Motor Vehicles (DMV) and the Department of Environmental Conservation (DEC). Second they would like to revisit the logic and evaluate the success of software development versus purchasing prepackaged software. Web development is not formalized and more of an adjunct job responsibility within this region. Thus each regional group has their own web content representatives. This situation needs to be better understood and perhaps formally delegated. Another issues discussed was the growing needs of the regional TOC (traffic operations center), located within Maintenance.

III. Group Managers' Meeting:

Program & System's Planning: This group participates in a large degree of inter-regional communications. A self-built Access database called GEORGE downloads from PSS and transforms data into a format for users in this group. Mark Bowers spoke extensively on the need for the development of a much more user friendly system to replace the redundancy and manual data transformation in the current systems, and the growing need to integrate information among the members of the group.

This is a heavy user group.

Real Estate: This group developed an Access database to replace their Q&A system. Two other regions may be using this database. Gus Kull developed the database and supports it for his group. This main database is not sanctioned by the main office but fits the needs of the group adequately and may be easily portable to other regions.

This is a heavy use group.

Employee Safety: This group primarily uses a civil service system called Accident Reporting System (ARS) and W.A.R.E. They have made great strides in disseminating information through the internal web site. Ironically, those typically in the greatest need of the safety alerts don't have access since they are the workers on the roads. In a unique role this office works as the statewide clearing office for coordinating defensive driving training courses offered by DOT with the DMV.

This is a heavy use group

Equipment Management: This department uses IT extensively for their day to day inventory management and purchasing systems. This group interacts with many other groups for their fleet management. Much of this data is manual and paper based. Many of the bigger enterprise systems are data rich but are not integrated and very difficult for the regional staff to access valuable information. There is use of specialized vendor software (i.e. engine troubleshooting software). This software is not supported by main office and they would like administrative privileges to install this type of software. Because of the existing RPMS there is a redundant data entry.

This is a medium use group. However IT is rapidly becoming core to their business.

Construction: This group uses digital surveying equipment and a number of other applications. They have 20 laptops & desktops with CADD installed which are provided to contractors. They currently get the CADD files from design and make changes, calling them "as-builts". These are then sent to main office in Albany and archived after the project is completed. Engineers in Charge (EIC) typically call the Help Desk, office staff however tend to solve most of their IT related problem themselves. They have a CADD coordinator who uses about 25% of his time providing IT support for the group.

This is a heavy use group.

Traffic: This group is currently being lead by Frank Nachman. As an interim leader, he chose not to discuss the IT needs of this group.

Human Resources: This group is very dependant on IT. Much of the data comes and goes through their office for other agencies. One staff member developed many creative and unique solutions for querying and sorting data from their mainframe systems. Many of the data entry tasks are done three to four times. But this is due to Civil Service and Comptroller's offices' lack of communications.

This is a heavy use group.

IV. Detailed Group Summaries

IT Group: This group has a full time staff of six and one consultant, which includes key people, a network administrator and a web coordinator. As a grade 18, the regional IT Coordinator also supervises other grade 18's in his group. This may be an oversight by personnel. There needs to be a grade 23 title in this group for the supervisory role.*

This is a medium use group.

Maintenance Group: This group is similar to Regions 1 and 2, in that they are awaiting the rollout of the MAMIS to replace the DAISY system. The highway advisory system was installed last year. In this region a TOC rather then a TMC is managed within this group. This group does have quite a few homegrown and customized applications such as their Road Histories. They have about 400 staff with about two staff devoted to CADD and IT related tasks.

This is a medium use group with a few heavy users.

Design Group: This group never installed CPM critical task scheduling system, but use MS Project for scheduling and managing projects. Thus, there is no link between the scheduling charts and the actual projects. Most software support comes from within the Design group recognizing that the IT personnel familiar with CADD has a great deal of turnover. As new versions of this software are released, this group noted that it would make sense to develop software support experts or "a 21 century draftsmen". Structures and bridge inspections use the main office recommended applications. Most IT related problems are solved through either helpdesk or the main office. A question was raised on whether design teams can access historical data from other regions. Bridge designs and construction may be built, funded and serviced by village, town, county, etc… On occasion the main office has sent down applications or images which needed to be re-configured.

This is a heavy use group.

* Upon further investigation there is a grade 23 listed with a line item associated for this region, however no one is currently in this position.

Department Of Transportation Regional Study

Trip Report

Region 10
Hauppauge
August 4, 2003

Submitted by

ISR Consulting Services
Rensselaer Polytechnic Institute

I. Overview: The IT group has developed an extensive experience and attained a high level of expertise. The staff's talents and diversity provide this region with a strong IT group. The TMC has matured over the years with a very well defined vision. Not only is it the oldest TMC in the state, it is also the largest.

Howie Stoller, Al Wallace, Cheng Hsu, and Scott O'Connor represented the study team and met with the acting Regional Director Subimal Chakraborti. In the group manager's meeting the following staff were present: George Kuopp; Equipment Management, Deborah Teigue, Administration, Marie Milnes, Human Resources, Roge Chapma, Real Estate, Frank Pearson, Traffic Safety and Engineering, Joseph Brown, Maintenance, Dave Retting, Planning, Mark Bocamazo, Design, George Knips, Construction, Patricai Audinot and Margaret Conklin, RD's Office. After the group manager's meeting we met with IT staff for lunch. This meeting had Robert Martin, Hector Passini, Oscar Idrovo, Matt Arnold, Peggy Geiger, John Murphy, Don Johnston, Jogn McGrellis and Robert Hug in attendance. The group then held break out sessions with Design and toured the TMC.

II. Regional Director's Meeting: The regional director is relatively new (~ 4 months). His background include a tour in Region 11 construction. He is developing a set of tasks which could be included into a new TMC. The current TMC is currently the oldest and largest in the state, and is being designed to include State Police and Nassau and Suffolk County Police.

The consolidation and coordination of IT services among the downstate regions (Regions 8, 10, and 11) is being discussed and considered. There is also desire to develop a more sophisticated help truck deployment service.

The Regional Director would like to know which program area is responsible for which vehicles and who drove them. This is information which was recorded and entered into a state system but cannot be retrieved. Many times they found it strange that they can get information from other agencies rather then from within DOT's own systems. He would like to see the systems made more user-friendly.

III. Group Managers' Meeting:

Program & System's Planning: This group initially did not like PSS but over time staff (who have since retired) made it work. The group is fairly happy with Crystal reports. Having the ad-hoc ability of 'Crystal Reports' in conjunction with the data warehouse works, although it is not the most user friendly. They had a number of specialized applications who did not make it into the newer generation of machines. There is one full time IT equivalent. Many of their database experts, who they did not consider IT experts, have retired. The manager felt that they were in better shape regarding IT last year then they are now.

This group also performs traffic simulations (COR-SIM). This person spends more then half time running simulations. They also had a consultant create a model for the entire Long Island area. However, whenever someone wants to run the simulations, they need to rehire this consultant to run the program. The group would like to develop more expertise in this area. There was also a

desire to have a decision aid which would help managers manage the projects, coding the information can be found in the procedure manual.

There is a need to get information from maintenance to start the planning process. This is a resource issue, but he would like a pavement management system. The computer should be used to project the deterioration of the pavement.

The road histories files get archived after 3 years. This makes it difficult to track and use in the planning and design process. The warmer winter but the heavier traffic also makes region engineering different from the other regions.

This is a heavy use group.

Real Estate: Typically use Q &A, which is supported by the IT group. They use the internet extensively to look up real estate prices and post information to the web. They have one IT liaison.

This is a light use group.

Equipment Management: This group is looking forward to the newer MAXIMIS for fleet management. This group coordinates and administrates contracts for Region 11's equipment. They typically maintain all heavy equipment in-house and outsource the light vehicles and trucks, monitoring the service contracts.

They are a medium user.

Construction: This group has run into many compatibility issues when trying to interface with the consultants. What happens in the field has to be configured in the field. This group does not manage 'as-built' but plans to begin using CADD and Inroads in the field.

Payments and purchasing systems are beginning to be done more and more online. Typically they outsource 50% of the contractor work supervision to consultants to inspect the construction work. Inspectors in the field are used to try to determine estimates from the historical database and determine labor rates etc. Cost estimate data is complied and determined by main office construction and then printed out monthly and sent to the regions.

This is a medium user at this time.

Human Resources: This group is very similar to other regions in that they rely heavily on other agencies and office. PAYSR can be used to sort paychecks. DOT's purchasing system (the AS-400) is somewhat cumbersome and lacks any interactive features. Half the data is inaccurately entered, thus the summary data is invalid.

They want the Docu-Text copiers back. A group from main office pulled their copiers and wants the region to send large print jobs back to Albany and then ship to the region.

This is a heavy use group.

IV. Detailed Group Summaries

IT Group: About 50% of their workload comes from Help Desk calls.

This is a medium use group.

Maintenance Group: There is a number of senior personnel in the residences who are resisting computers. This is changing as younger personnel move into this regional group. There is significant 24/7 working due to street cleaning. About 75% of work is done by the region; 25% is contracted out. There is a significant degree of interaction with planning and programming, but is usually paper based. The general foremen in the residences and sub-residences have recently been given computers, but the level of use varies greatly. Their minimum use is e-mail; the more sophisticated users are now using accident recovery accounting. The ideal new system is not just a document management system, but rather a document control system which reminds people what needs to be done.

This group manages the road histories and most of the plans but which are paper based and located. There is currently an equivalent fulltime IT staff person who manages maintenance IT systems. Calls are logged for customer services (i.e. 1-800-pothole) are managed through Informs (TMC). There is a very high usage of overtime. Thus, there needs to be better training on behalf of the dispatch personnel to insure the proper level of service is being delivered.

Photo logs have become a significant issue as more and more digital photos are taken and stored. This is a new area where ISB could take a leadership role. The workload is very seasonal. A good system is needed to redirect and remind people what to do as seasons change and to schedule maintenance related work. The main application is email and Daisy. There is a lot of E-mail communications is suited for emergency response work orders.

There is a problem with theft and break-ins in this region; therefore security has become a more important issue. Most truck reports and snow and ice reports are all done by telephone and email after being recorded on paper first.

This is a light use group.

Design & Structures Groups: There are about 4 to 5 people in the group who support IT work. They do a lot of CADD drafting and use Inroads extensively. The Group would like to see someone dedicated to training for Inroads. SFMS is an antiquated file management system and is being replaced with ProjectWise. 80% of the large capital projects are outsourced, due to complexity. But 80% of the projects are handled internally. There doesn't seem to be a great need to force private consultants to follow the CADD standard. There are about 5 years worth of records in electronic form.

There is very little bridge design done in house. There are two teams of two bridge inspectors on state payroll. The remaining inspection work on bridges is done by consultants. There are ~800 bridges in this region. Flooding is the biggest issue and the local data is stored at the sub residences.

Design uses data from other sources; maintenance, traffic flows, planning and many other sources to initiate projects and during the design of the roadways. According to the Design Manager, he would like a tool which allocates the specific man hours and workload expectation for each project. Hence, he would like a better forecasting and management tool based on past performance to be used for predicting future projects expenses. There is also a need to support project management. Although the technical aspects of projects are determined in the region, the financial considerations are set in the main office.

This is a heavy use group.

Traffic Engineering & Safety: This office has the oldest and the largest TMC in the state. This region is the repository for their own data and stored on their own servers (not in Albany). They have a database which can be accessed for histories and litigation purposes.

The Group would like to have a system which can coordinate all parts of the region. In particular it would be helpful for a managing permits and customer requesting process. For example, if a request comes in for installing a left hand turn at an intersection, one group may not realize that another is already working on the issue. There is also an older database system (DOS) which manages correspondence with the public and politicians.

This is a heavy use group.

Department Of Transportation Regional Study

Trip Report

Region 11
Long Island City
July 28, 2003

Submitted by

ISR Consulting Services
Rensselaer Polytechnic Institute

I. Overview: In this region, Design, Structures and TS&E groups have evolved with very self sufficient IT support structures.

In attendance were Doug Currey, regional director, Mara Kopmans, Administration, Phil Eng, executive, Melus Soto, IT leader, and Maria Ramirez, from personnel. For the regional study team, Cheng Hsu, Scott O'Connor and Howie Stoller were present.

For the Group manager's meeting the following personnel joined us, Fred Lai; TE&S (TMC), Richard Stempel; Design, Sonia Rivera; Desgin, Philip Salerno; Construction and Jaimin Patel; Maintenance. Lisa Kuhner; Public Affairs, Larry Malsam; Planning, Peter King; Planning, Norie Tatevorsian; Structures, Refat Habasky; Structures and LeRoy White; Real Estate also contributed to our discussion.

We had a working lunch with the IT staff comprised of Carlos Montalvo, Joseph Guillard, Claudio Revelo, Tanvir Raidhan, and Anthony Fajar. After lunch we met with Joseph Condon and Jaimin Patel representing maintenance. Design and Structures brought to the table Rufus Orimuloye, David Wilks, Mike Henriquez, Morris Davis, Sima Shypukher and Rohit Khera for their meeting. Our last stop was a tour of the regional TMC by Fred Lai.

II. Regional Director's Meeting: The biggest issue discussed is the lack of a promotional ladder for IT personnel. Doug Curry emphasized that the IT support in the Region is fragile due to the lack of appropriate IT titles. This shortcoming makes retention and recruitment of good people difficult. There is no grade 23 within the region for IT staff to aspire to. As a result, the IT support is under-staffed and fragile. The IT support in the region is moving from distributed to centralized. There is still significant distribution (e.g. in the design group) due to home grown applications, but centralization would be better in the future. Other issues mentioned include problems with getting data from consultants, OSC, and other external constituencies. They need to revamp its security. There is insufficient support for maintaining applications in functional groups and the sense that the helpdesk does not relieve much work load from the IT staff. The GIS is centralized in the region.

III. Group Managers' Meeting:

Program & System's Planning: The beliefs expressed by Peter King were that the existing PSS system does not allow users to search by a specific corridor. Therefore they need a more efficient regionally based database system to track maintenance work and expenditures. Work history seems to get lost in the system and is difficult to gather useful information for future projects. A significant portion of planning and design work is done by the City DOT. In addition most projects are paper based. The most used application aside for PSS is email. Most projects and proposals are sent to the City DOT via email.

Every three months there is a review with NYC DOT bridge department. Projects are discussed and planned; however very little is recorded. Further meetings rarely consider previously discussed issues or review of past decisions of the group.

This is a light use group.

Real Estate: This group is mainly using an Access database for their real estate transactions. They had a staff member who recently left who spent between 10-30 % of his time supporting applications.

This is a light user group.

Equipment Management: All equipment management is outsourced to Region 10, Hauppauge Long Island. Passenger vehicles, trucks and a single cherry picker are the only equipment maintained. Thus, this group does not exist in this region.

Construction: Due to the nature of the relationship between NYS DOT and NYC DOT and the infrastructure of NY, there is very little new NYS DOT construction. With regard to the construction work which takes place, they use consultants to monitor contractors. They typically have ~ 60 field offices through out the city at any given time. In addition there is a very short winter compared to upstate, thus most field engineers are in the field all year.   They have one full time IT liaison whose job is to install and support state authorized software on the contractor's computers. There is also an equivalent of one part-time employee who works on web based content and with the web coordinator.

This is a heavy user group because if the software is down, construction and contractors stop working until they get paid.

Human Resources: This group is very dependant on IT. Much of the data comes and goes through their office for other agencies. Much of the data is re-entered three to four times, due to Civil Service and Comptroller's offices' lack of communications. They rely on consultants approximately 70% of the time.

This is a heavy use group.

IV. Detailed Group Summaries

IT Group: This group has four full time state workers and two consultants. The background of most of the IT staff was clearly experience from within different groups within the region. Both the network administrator and the software expert in CADD came from the design group. Similar to Region 8, a grade 18 was supervising other grade 18's.

This is a medium use group.

Maintenance Group: This group is dissimilar from the other regions in that it consists of only a dozen or so engineers who assign all of the traditional maintenance work to either the NYC DOT

or contractors. Much of the work load is also resubmitted internally back to Design. The group neither uses nor plans to use MAMIS, since they are not currently using DAISY. They don't have traditional maintenance/road workers as other regions do. This group developed an internal Access database program which helps keep track of the work. The GIS coordinator is within this group.

This is a light use group.

Design & Structures Groups: Almost all transactions with NYC DOT are paper based. Much of the work is sub-contracted with the NYC DOT's planning and design offices. There are two full-time IT support personnel and another two supporting CAD applications (MicroStation & InRoads) within this group. The equivalent of 1 ½ man hours are spent on hardware support, while the other 1 ½ spent of application support. Both hardware and basic application (MS office tools) support personnel within the design group consider themselves IT, although they are in engineering titles, one is a certified Microsoft Support Provider (MSP) and working on his Cisco certification (CCNA).

Bridge inspection uses Bippi and works closely with the IT group. Many problems have occurred with the updates which are distributed every few months from the main office structure group. They inspect approximately 750 bridges. Port Authority performs their own bridge inspections and this group oversees their bridge inspection program, but there is very little communication with the Port Authority (except in emergency situations). Another largely used application is Winbolts.

This is a heavy use group.

Traffic Engineering & Safety: In this region, the TMC is labeled TE & S. It is located within the same building as the branches of the NYC TMC and NYC Police. They monitor traffic on major throughways with ~ 70 -80 cameras. Plans are to expand in the next few years. Signs are controlled by them but signals are controlled by the NYC TMC.

There are four separate networks within the TE & S; the group is very independent and rarely requests any assistance from the regional IT group. They maintain their own hardware and software with their own staff and via vendors and support contracts.