I. Approval of minutes from November 22

II. Old Business

1. Contingency planning w/ Randy Beaver: Mark Hurd invited him to come to the February meeting

2. Tech Qual Survey:
   a. Report expected to be published within a week
   b. Analysis still in progress within IT
   c. +28% in response rate over last year
   d. Perceived level of service went up in all 13 questions, +4% or more, +10-12% in networking issues
   e. Plan to finish installing wireless is posted; official schedule on the IT web site. But several campus buildings still have no wi-fi. (Ex: Mark Hurd’s office is in 55 Coming St, part of Block Six listed at http://it.cofc.edu/documents/wireless-rollout-plan.pdf, scheduled to have wi-fi service by August 2014) Priority was given to classrooms, then by location.

3. Campus communication & listserv discussion
   a. Vijay Vulava chairing subcommittee
   b. Andrew Bergstrom has a document listing existing resources
   c. Our Google Apps system has a lot of features that aren’t widely known; students have to activate their Google+ account feature to take advantage of Hangouts. TLT and Google have posted instructions.
   d. Andrew Bergstrom has pursued calendar programs, tried to get some support during strategic planning process, but it wasn’t given priority. Marketing runs the master public calendar. Currently no critical mass for the campus to adopt a more consistent use of calendars.
   e. Computer Science has some working shared calendars

III. New Business

1. Strategic Planning for IT (advisory committee)
   a. Handout for information: Draft of broad areas of focus, projected timeline

2. IT security policies
a. New policies have been written by the Department of Information Technology and Department of Information Security (state-level) and are trickling out

b. These are mandates for the college. They are written as “ideals” and Bob Cape thinks no agency will be able to become fully compliant with every one of the eventual information security policy requirements.

c. No funding is being made available to institutes of higher education by the state, but funding is being given to other state agencies.

d. Already some services have had to be shut down as a consequence of newly mandated intrusion detection packages.

e. Balance of security vs. usability impacts distance learning, traveling faculty, and a variety of odd tasks (controlling lab equipment...)

3. Classroom technology upgrades

a. Monica Lavin’s project

b. Estimate 10-12 years to complete upgrades to 300 rooms (classrooms + other “learning spaces”, labs, conference rooms, etc.) Will take $17.5-18 million that will be a challenge to get

c. Handout with estimates, including equipment lifetime, replacement / upgrade / maintenance budget

d. Most of work for current year is nearly done: 27 of 28 classrooms slated for this fiscal year have been completed. The 28th is more complex, requiring deployment of adaptive technology.

e. Work will being in July (beginning of next fiscal year) on the next round

4. Removing Windows XP from campus network

a. All Windows XP computers must be either upgraded to Windows 7 or disconnected from the College network by April 8, 2014 because Microsoft is ending support for XP

b. Some odd cases: Vijay Vulava has an XP computer that is supposedly too old to upgrade to Windows 7 but is not on the official replacement list PCR; Mark Hurd has old specialized software that only runs on XP, does not need to be on the network— notices have been sent to try to uncover odd cases like this and resolve them.

c. The goal is no one unhappy when the deadline hits

5. OAKS roster synchronization

a. Bug found in D2L communication with Banner—high priority for fix by D2L developers

b. Has to do with cross-listed courses

c. Workaround: There’s an extra step or two, create a new merged course, import the
content; TLT helps with this

6. This weekend: New e-mail gateway (spam filter, etc.)
   a. Called Proofpoint. Starts Friday night.
   b. All users will be getting lists of quarantined e-mail from both systems until the old one is finally phased out
   c. It will need to re-learn what counts as spam for you; new system will not have our old “this is spam” records to look at

7. Next meeting: Thursday February 20 at 3:10 pm, Maybank 119.

Stuff to do medium term:

1. Finish phasing out Windows XP
2. Improve VPN
3. Disaster planning
4. Finish installing wi-fi everywhere on campus
5. Build support for better use of our calendar packages
6. Fix bugs in OAKS/Banner roll synchronization
7. Maybe add to course evaluations an “I did it” button for posting to social media
8. Maybe add evaluations to academic calendar
9. Move paper forms to online workflows
10. Microsoft System Center: New Helpdesk ticket system, image deployment, and other infrastructure in the works, April 2014.
   - “quick ticket” link on classroom desktop
   - more flexible deployment – fewer disruptive re-imaging episodes, ability to make and apply image deltas, configure several machines the same way but without having to put everything in the base image

Stuff to do long term:

1. (college wide) disaster plan:
   - College can only re-open when x y and z are restored
   - Off-site backups of data (“cold”) has been implemented for many years
   - Off-site redundancy for services such as registrar, payroll,... (“hot”)
2. (college wide) hospitality plan:
   ◦ Check list of who to contact for events: room reservations, catering, IT support, facilities, clean-up crew, publicity
   ◦ Connect to business department offerings?

3. New state of South Carolina security requirements (unfunded mandate)

4. Better way for users to find out (self service website) whether their machine is scheduled for replacement (PCR), or estimate when it will be.

5. File synchronization, U: drive, Drop Box, backups

6. Listserv (see communications plan above)
FETC Regular Meeting

2013-11-22 3:00pm

I. Minutes approved

II. Old Business

1. Tech Qual survey
   a. 1,548 completed responses out of 1,753 attempts
   b. We get access to C of C results, and some access to overall summary statistics across all institutions

2. Campus communications & listserv
   a. Including a special question on Tech Qual survey, got good feedback from free response
   b. Vijay will reach out to Staff Advisory Committee (SAC) to get input from staff, and SGA to get input from students, and Graduate Student Association (GSA). He will relay information between FETC and other committees.
   c. Needs-assessment should include audience: Is this communication need something that should be protected by password? Who can send? Who can read/receive? Is it “official” communication from the college, as in billing? (Apparently many students don’t read e-mail regularly.)
   d. Existing tool: The Wordpress blog can be configured to automatically send posts to Facebook, Twitter, etc. Good for reaching many people who have a variety of preferred communication tools.
   e. New IT emphasis on more rigorous project management.
   f. IT will take on role of subject matter expert on projects, leave project leadership more to faculty/staff project managers. Plan to do thorough needs assessment, followed by suggestions from IT for solutions.
   g. Andrew will assemble a table of existing offerings.
   h. This has been a part of a years-long discussion.
   i. What about replacing paper forms, like travel authorization & reimbursement request forms? Solid architecture is in place, including work flow (Ex: What stage is my form at now?) but only for a few forms. Time consuming process because you have to re-think all the forms. (Ex: Can these two forms be combined? Who needs to sign off?)

3. Online course evaluations
   a. As of right now, 21% response so far, which is better than this time last semester
   b. Vijay reports good success with inviting students to bring a device and submit
evaluations during class
c. Deanna reports success with offering cookies, and many students said they found the link in signature block in professor’s e-mails.
d. Andrew suggests: add a tool to post to Facebook / Twitter “I did it!”
e. Meg suggests posting evaluation period in official academic calendar, to help faculty in planning the syllabus
f. Mark reports from faculty senate meeting: We should give another report in the spring. General support for having response period extend into exams (as requested by Faculty Welfare Committee).

4. BarCamp
a. Went well
b. Event planning work flow: Publicize via marketing. Let helpdesk know need for wifi, etc. This communication flow doesn’t happen automatically!
c. We don’t have a central scheduling / event management office. We need this, but it’s unpopular bureaucracy, changes who controls what. We have a package called R25, but it’s antiquated and various divisions have their own individual solutions. No one has taken on the task of building it.
d. We have a department of hospitality & tourism management, can we make some use of that?
e. Involves: Public safety, campus catering, housekeeping... No single channel.
f. Possible hook: It would be entrepreneurial to improve college’s openness to hosting events, maybe make some money.

5. From Andrew: Wordcamp: Wordpress developer’s conference
a. In May, just after graduation.
b. Helpdesk has been notified :-) 

III. New Business

1. IT strategic plans
a. Process of launching...
   • IT strategic advisory committee (ITSAC)
   • invitations out, most accepted, to faculty, staff, students, library,...
   • Meeting Monday 11/25 1:00-3:00
b. Goal: written 3 year IT strategic plan based on college strategic planning
c. emphasis on big pictures rather than specific projects
d. plan will go to executive steering committee

e. grounds for FY2015 budget request

f. recurring each year, same membership

g. Goal: increasing transparency and accountability

h. Being done following suggestion from Huron review

i. Two open forums, one close to beginning of term, one to review progress

2. Emergency preparedness, disaster plans

   a. BCP = Business Continuity Planning

   b. Monica wrote a hurricane preparedness guide:
      http://it.cofc.edu/emergency-preparedness/index.php

   c. Mark has particular interest & experience with disasters

   d. Note recent disasters: Typhoon Haiyan, tornadoes out west

   e. After Hurricane Ike in Texas:
      
      • lots of flooding damage (storm surge)
      • weeks without electricity
      • millions of cubic yards of debris
      • many casualties
      • and they were well prepared, lots of forethought, people who’s job it is...

   f. Ex: Blackbaud has two hot backups in other states, can continue operation in case of disaster

   g. C of C has a cold backup off site, but not a hot backup (Ex: no off-site way to process payroll, transcripts, ...)

   h. Does C of C have a committee on BCP? Are the plans made out? Are they tested?

   i. We are so dependent on computers for teaching, payment, etc.
      
      • Under what conditions will the college re-open?
      • Ex: making student records available so students can temporarily go to another school.  (Post-Battery-project Check Point committee knows about this.)

   j. Long-standing Emergency Management Committee, and Executive Policy Group—Get in touch with Randy Beaver, they have plan for recovering from a disaster, but it’s state of updatedness is not known.

   k. Data availability is part of the story (local backups in case central server remains down)
l. But there’s more—Transcripts, business logic, access issues...

m. Let’s invite Randy Beaver to one of our meetings

n. IT is responsible for disaster recovery; can participate in the process of business continuity planning, but is not the right department to lead the project but can’t lead it.

3. Imminent outages

a. Last work week before Christmas, major networking rewiring and electrical work in Randolph Hall.

b. IT held open informational session for those who will be affected by the scheduled outage.

c. No networking in many buildings, sent out over e-mail, flyers sent out.

4. Columbia is sending out more security requirements

a. but not the necessary funding for colleges (other state agencies do get some)

b. plans in place to implement a second authentication factor on e-mail, etc, and it’s a state mandate, but unrelated project not going well at MUSC

Stuff to do soon:

1. Needs-assessment on communication

2. Invite Randy Beaver to one of our meetings to talk disaster plan

3. Technology strategic plan (to be completed by ITSAC in March, 2014)

4. Spread the word that Windows XP reaches end-of-life in April 2014. All XP machines must be either replaced, upgraded to Windows 7, or disconnected from the network at that time. Philip Paradise will arrange for Helpdesk to seek this information.

Stuff to do medium term:

1. Maybe add to course evaluations an “I did it” button for posting to social media

2. Maybe add evaluations to academic calendar

3. Move paper forms to online workflows


   • “quick ticket” link on classroom desktop

   • more flexible deployment – fewer disruptive re-imaging episodes, ability to make and apply image deltas, configure several machines the same way but without having to put everything in the base image
Stuff to do long term:

1. (college wide) disaster plan:
   - College can only re-open when x y and z are restored
   - Off-site backups of data (“cold”) has been implemented for many years
   - Off-site redundancy for services such as registrar, payroll,... (“hot”)

2. (college wide) hospitality plan:
   - Check list of who to contact for events: room reservations, catering, IT support, facilities, clean-up crew, publicity
   - Connect to business department offerings?

3. New state of South Carolina security requirements (unfunded mandate)

4. Better way for users to find out (self service website) whether their machine is scheduled for replacement (PCR), or estimate when it will be.

5. File synchronization, U: drive, Drop Box, backups

6. Listserv (see communications plan above)
FETC Regular Meeting

2013-10-31 3:00 PM

I. Minutes approved from 10-October-2013 meeting.

II. Old Business

1. Deep Freeze / Classroom configuration
   a. Report from subcommittee
      • goal of 2-3 minute start-up time
      • improved documentation and testing
      • longer time to screen blank – in a new policy file, ready to deploy
      • “quick ticket” link on classroom computer desktop – will be set up when Helpdesk switches to new ticket system, scheduled for April 2014
   b. Slowest booting machines have apparently been replaced – as classrooms are upgraded, better machines start faster
   c. Classroom computers are scheduled to apply Microsoft’s updates on Saturday night, then reboot, which sets new Deep Freeze reference state
   d. Related issue: There’s a group in Active Directory, machines in that group don’t automatically update and reboot. This setting is needed for computers that control laboratory equipment.
   e. Related issue: Some machines running special equipment require software that only runs on Windows XP. Sometimes updates are available, some require purchase. What to do about end-of-life in April 2014? IT doesn’t know about all of these machines and needs to be made aware of them.
   f. Related issue: Can a user find out when they’re scheduled to get their computer replaced? Partial information available on the IT web site.

2. Campus communications and listservs
   a. Tech Qual survey: preliminary results include comments about abuse of listserv, need for something like Skype, shared whiteboards.
   b. Need to make people aware that some features that they are interested in are available and they just need to know how to get to it.
   c. Subcommittee will get to work on options for campus communications as soon as the Tech Qual survey closes and these data are available.

3. Tech Qual survey
   a. Survey closes for submissions in a week, about 1200 people (faculty, staff and students)
have responded thus so far.

b. Signs of improvement in comparison to last year’s survey in preliminary results, ex: classroom technology.

c. These data need to be carefully interpreted.

d. Mark Hurd will encourage responses at the Faculty Senate meeting next Tuesday

III. New Business

1. Faculty Senate presentation (scheduled for November 5)
   a. Mark Hurd working on a slide show, will post on SharePoint server

2. Rita Hollings Science Center
   a. When the building goes offline, what will wireless (Wifi) access be like for buildings on Coming St.?
   b. These buildings currently have no Wifi access. The buildings were scheduled to have Wifi installed in August of 2013, but that installation has been rescheduled to August 2014 due to issues in Columbia.
   c. Bob Cape cannot say what will happen to Wifi from RHSC during the its renovation, but he will look into these potential issues.

3. Hurricane disaster plans
   a. What are the current disaster plans? We rely so much on OAKS, etc.
   b. Monica wrote a hurricane preparedness guide:  
      [http://it.cofc.edu/emergency-preparedness/index.php](http://it.cofc.edu/emergency-preparedness/index.php)
   c. Summary from Bob Cape
      - Preserving data, backups to several on-site and off-site buildings.
      - We do not have off-campus backups at this point, upper level administration working on making this possible, but no funding is available as yet.
      - Randy Beaver runs disaster drills and all departments are supposed to have disaster plans. IT is working on updating their disaster response.
      - There has not been a full simulation of IT coping with a disaster.
      - Recovery from a Sandy-level storm could potentially take months.

4. December 16 – January 2: Major equipment work will be done, many buildings will be disconnected from the network. This is planned, announced IT outage.

5. Next meeting Friday, November 22 at 2:00 PM in RSS 131.
Immediate action items:

1. Spread the word that Windows XP reaches end-of-life in April 2014. All XP machines must be either replaced, upgraded to Windows 7, or disconnected from the network at that time. Philip Paradise will arrange for Helpdesk to seek this information.

2. Encourage responses to the Tech Qual survey.

3. Alert Helpdesk that Bar Camp will be on campus in mid-November.

Near term action items:

1. Microsoft System Center: New Helpdesk ticket system, image deployment, and other infrastructure in the works, April 2014.
   - Develop “Quick Ticket” link on classroom desktop
   - Improve flexibility of image deployment – Minimize disruptive re-imaging episodes during the semester; Work on image flexibility; configure several machines the same way but without having to put everything in the base image.

Long term action items:

1. Better method for users to determine whether their machine is scheduled for replacement (PCR), or estimate when it will be replaced with a self-service website populated with this information.

2. File synchronization; improve utilization of U: drive, Dropbox, and backups

3. Listserv – improve communications so that relevant information gets to people in a timely fashion without having to dig through irrelevant information (e.g. car for sale, adopt a cat, etc.)
FETC Regular Meeting
2013-10-10 3:00pm

I. Old Business

1. Deep Freeze & classroom computer configuration, Philip Paradise:
   a. Deep Freeze restores computer to reference state on reboot, avoids viruses, but also restores configuration mistakes that weren’t caught when the reference state was built
   b. New image has been set up
   c. Problems with classroom computers: reference state didn’t include various initializations
   d. Deep Freeze slows down start-up
   e. Has been used on campus for a while now, prevents viruses from affecting classroom computers
   f. Need a subcommittee

2. Campus communications, online community, Andrew Bergstron:
   a. Added questions to Tech Qual survey, what features do users want
   b. Users might not know what features to ask for, what are available
   c. General needs: quick trading posts, long multi-user discussions—very different, maybe different packages for different use-cases
   d. Need a subcommittee

3. Faculty Senate meeting, faculty course evaluations, Mark Hurd:
   a. Ongoing ad-hoc committee
   b. Target to be on agenda for November senate meeting
   c. Deadline October 24
   d. Paper response rate was 67%
   e. Online response rate is about 35-40% now
   f. Deanna Caveny-Noecker: We have Blue Portal Integrator software that should let us administer the survey through more sources, easier access via OAKS & smart phones. Implementation by Chad Ridley, Sandy Hall, waiting for resolution of tech issues. Should result in easier access to forms (for students) and reports (for faculty).
   g. Some question: what about teachers that don’t make much use of OAKS, students that don’t sign in very often... Faculty can look up usage statistics for their classes. Zach Hartje: should be able to do a college-wide report.
h. Meg: Would like to see reports grouped by how often students missed class.

i. Deanna: There’s a big data file of all details of all responses, and Institutional Research and Planning (IRP) can do more detailed analysis on it, even though Blue does not generate reports for all the more complicated questions we come up with.

j. Anecdotes: Same amount of “advertising” in similar sections yields vastly different response rates.

k. Faculty already ought to be able to see their response rates in real time during the evaluation period.

l. Problem that evaluations during summer & Express terms are harder to advertise to. We have to focus on only the relevant part of the campus.

m. Students complain that the form is too long, but changes to shorten it must go through the senate.

n. Suppose: We could invite students to bring devices to class, spend some time there filling them in. But not all students have devices, various reasons, and use of a phone may lead to minimal text in free responses, lower quality of information. Not enough portable devices owned by the college to loan out during the period.

o. Online evaluations created a burden for faculty, who now have to “market” the survey. This is at the benefit of reducing the distribution and collection of paper forms, which wasn’t a direct burden on the faculty but was a logistical nightmare elsewhere.

4. Tech Qual survey is out, Philip Paradise:

a. Sent to 14,535 people, 2% response so far, open for a while

b. Last year’s response rate was 22% after sending it to whole campus, much higher rate for faculty than students

c. Done by techqual.org, masquerading as helpdesk

d. This year, Tech Qual can send targeted reminder e-mails to those who haven’t filled it out yet.

e. Would it be better to use something other than e-mail: Facebook, Twitter, SMS/Text? Students are not paying as much attention to e-mail, favoring other media. Also too much “noise” and no way to prioritize messages. Job for communication subcommittee.

5. Survey about complaints, Meg:

a. Posted on Share Point, already discussed with Monica

b. New Tech Qual survey allows comments on all questions

c. Classroom problems are being resolved much more quickly now

d. Problems are not being thoroughly reported according to Philip Paradise

e. Other patterns: off campus access, GIS
II. New Business

1. Subcommittees
   a. Deep Freeze and classroom configurations
      - Meg, Garrett, Phil, Alejandro
      - List needs, prepare ways to evaluate software solutions
   b. Campus Communications
      - Andrew, Vijay
      - Current and future needs

2. Online & distance education, intellectual property, Mark Hurd:
   a. From James Madison University, Hanover Research Council, packets about best practices for online education. Can we write something similar for our specific needs and platforms, maybe using the TLT group? There’s a course in TLT that is required for faculty teaching a DE format course. Purpose of the course for faculty is so that when their course actually runs, they have fewer tech issues, fewer unexpected tasks.
   b. Meg: Has heard a lot of bad stuff about this course, too much time and trouble, no advance notice of what is required. The problem is time.
   c. Deanna: Academic affairs does provide some stipends
   d. TLT responds to the lead from academic affairs, which pushes the development of DE.
   e. New service: Kaltura, for doing short streaming of non-copyrighted (via OAKS too after December upgrade), instructions on TLT site
   f. Replacing lemon with stream server, needed to stream copyrighted or very long media files
   g. Documentation posted at: http://blogs.cofc.edu/tlttutorials/
FETC Meeting

2013-09-12 3:00pm

I. Old Business

1. Report from Bob Cape & Andrew Bergstrom
   a. Recap of making the IT Plan for FY13
      • Huron consultants recommended IT make a strategic plan
      • Plan process centered on an IT Planning Committee of approximately 25 faculty and staff was approved by IT Executive Steering committee consisting of executive vice presidents + Bob Cape
      • Good ideas from the IT open forum
      • Used to set priorities and make out the budget request, which consists of a mixture of recurring funding and single year funding
      • Result was a list of 52 projects prioritized by the Plan Committee, some new, some continuations of old ones that needed to be accelerated. The top 17 were funded, including classroom upgrades and WIFI upgrades
      • Most of the funds came from an increase in the student technology fee, and further increases are not likely
      • Twenty classrooms were upgraded last fiscal year, and 26 of the 28 that were funded for the current fiscal year are already finished WIFI upgrades should be complete by August 2014, improved from previous estimate of December 2014 thanks to additional funding approved by the Board
      • Tech Qual survey, 18 standard questions, administered by an outside company, will be conducted in October
      • Monica Lavin is preparing a report from a prior year’s data (2012); this report will be located at the following URL: http://it.cofc.edu/about/techqual/index.php
   b. Listserv discussion
      • Long history of dissatisfaction, forum system did not improve things
      • New products may provide better collaboration tools: Sharepoint, Link, Google groups
      • Need for on and off campus access, which these new products can do
      • Need a subcommittee to look at these, discuss what is wanted in a campus online communication vehicle, come up with options, and find ways to advertise them to
the campus, get people to try them out, come up with a decision-making process

II. New business

1. Time table of fall semester meetings
   a. Thursday at 3:00 isn’t perfect, but it works better than the proposed alternatives. Next meeting will be Thursday October 10th, 3:00, in RSS 131.
   b. More meeting dates need to be established: Present to the senate, trustees, etc.

2. Agenda and specific goals for the coming year
   a. Intellectual property discussion
      • Primarily involves patents and electronic course materials
      • Discussions involving Legal Affairs and ORGA are ongoing with Bev Diamond, Susan Anderson, and Kathryn Bender
      • According to Deanna, the preference seems to be for “balanced” ownership, favoring the faculty
   b. Online Education & Online course evaluations
      • Due to time limitations, a discussion of online education was tabled until the next meeting.
      • Low student response rates to online course evaluations – cultural shift is needed to improve response rates.
      • Response rate leveled off, despite additional publicity
      • Blue Portal software being installed, works on web browser and mobile devices
      • Plan is that faculty will facilitate the process and encourage students to submit responses during class using their computers and smart phones as they previously did with paper evaluations.
      • This process is part of an ongoing discussion about how to evaluate teaching
      • The questionnaire will be shortened by removing the SCIP questions requested years ago by SGA. SGA approves the removal. Main questions designed by faculty and approved by the senate remain unchanged. Only the medium is being changed.
      • Removal of additional questions would have to be approved by the Faculty Senate; another committee is examining these issues.
   c. Classroom images and software configuration
      • Problems with Deep Freeze software: It is not possible to save configuration of classroom computers with this software in place. Initial login establishes profile; subsequent logins require initialization of software, drivers, etc. Issues arise with Adobe Acrobat Reader, MS Office (e.g. Excel; Data Analysis packs, etc.).
• Classes are disrupted, time is wasted. Faculty are frustrated, seeking workarounds.

• Proposed workarounds include installing PortableApps with standard configurations on a USB drive; installing operating systems to a USB drive and rebooting classroom computers off USB, bringing a laptop to every class meeting. These are inappropriate in the long term and insecure.

• Proposed longer term solutions include running a virtual machine for each faculty and installing viewers on classroom computers. Up-front cost is high. Philip Paradise is investigating use of virtual machines.

• Master image for classroom computers is difficult to update and re-deploy during the semester. IT representatives were not immediately aware of a solution, in which harmless settings are saved.

• IT requests that information on these issues be sent to Helpdesk.

• Geology gave up on Deep Freeze after it led to loss of student work and wasted time in their labs.

d. Faculty Survey

• In house survey conducted last year – Meg Cormack will provide details at the next meeting.

• Standard faculty computer options are insufficient for GIS and other specialized applications. Procedures for requesting more powerful computers are well-known in some departments, but not known at all in others.

• IT requested that department chairs report needs for software and did not receive much response; lack of communication seems to be the primary issue. Going through department chairs may not be the best way to discover faculty needs.

• Departments sometimes resort to buying extra computers, leading to difficulty with maintenance and irregular replacement schedules.

• GIS administrator is still needed, but was given a low priority in last year’s list by the IT Planning Committee. There were flaws in the prioritization process: need to discuss and re-think.