

# **Johnson City ITS Project**

## **Pre-Bid Meeting Minutes**

**State Pin #041039.00**

### Speakers:

1. Anthony Todd – City of Johnson City
  2. Mark Washing – Gresham Smith and Partners
  3. Ed Turbyfill – Gresham Smith and Partners
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- Company name needs to be noted on sign-in sheet
- *Anthony Todd*
  - **Contractual Issues**
    - Open bid date will be December 17<sup>th</sup>, 2012
      - This will be noted in an addendum
        - Addendum will be emailed to everyone on the sign-in sheet
        - Addendum will also be put on the website
    - Bidders will have until November 30<sup>th</sup>, 2012 to send in questions about the project bid
    - City Construction Permits will be needed
      - Apply at the Codes Division at City Hall
      - Price of Permit is based on the value of the project cost
    - After City selects apparent bidder, they will submit their selection to TDOT
      - After TDOT approval, then it will be submitted to the City Commission for their approval
        - City Commission meets the first and third Thursday of every month
    - All payments will be approved by the City Commission, which only meets the first and third Thursday of every month
  - **Overview of Johnson City's System**
    - The existing system is a hybrid of copper and fiber
    - Multimode fiber is used for all traffic communication leaving the TMC
    - There is a single mode fiber used between city facilities and buildings
    - Some of the intersections have twisted pair copper used to communicate that uses a fiber to copper converter
    - There are intersections that have fiber converted to copper and then converted back to fiber
    - Some intersections are connected with copper (being converted from fiber)
      - 13 on the north side of town
      - 20 on the south side of town
    - Other intersections are connected with fiber directly to the TMC

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- 6 on south side of town
- 11 on north side of town
- 2 more downtown
- 6 on west side of town
- There are 11 intersections with fiber to copper to fiber connections
- Existing communication must be maintained as long as possible
- Other intersections are being added and upgraded
  - 5 new signals spliced in at the of the existing fiber in this project at Unaka Street and Oak Street
  - The signal at Market Street and Knob Creek Road
    - If the ITS project is not done before the signal project the ITS contractor will tie-in this intersection
  - Bristol Highway and Carroll Creek Road – both the ITS contractor and the signal contractor tie into the existing network (see sheet 45)
  - Radio interconnect at Princeton Road and Broyles Drive will be tied into the new fiber through the network switch
  - Southwest Avenue and University Parkway is projected to be bid in December 2012 – it should be in place before the end of the ITS project and should be tied in on the ITS project
  - There will be some coordination with signal contractor(s) required
    - There may be 2 signal contractors to coordinate with
- *Mark Washing*
  - **Traffic Management Center**
    - There are many parts to consider and how they are included. Software, Field Installation, and TMC Upgrade.
    - There are 3 different areas in the TMC
      - Software
      - Integration
      - Traffic Management Center (TMC) upgrade
    - TMC is in Traffic Shop, currently
    - Upgrading room and office workspace
    - 1. Changes to floor plan
      - a. Creating video wall in TMC 103
        - Behind video wall will be a Server Room 102
      - b. Creating a corridor leading to TMC 103 and a smaller Office 104
      - c. Renovating Men's Room 109 with new toilet accessories
      - d. Also renovating small Toilet 111 with new toilet accessories
    - 2. Reflected ceiling plan

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- a. New ceiling tile and lights in TMC 103, new corridor and Office 104
- b. New lights in Server Room 102 with exposed ceiling
3. Finish Changes
  - a. New paint, rubber base, and vinyl composition tile (VCT) in TMC 103, Server Room 102, new corridor, Break Room 108, Men's Room 109, and Toilet 111
  - b. New paint, rubber base, and carpet tile in Office 104, Office 105, Reception 107, and Conference Room 106
4. Millwork Changes
  - a. Adding new millwork in Reception 107
  - b. New Millwork Break Room 108
  - c. New video wall in TMC 103 (gyp board furred out flush with TV screens)
  - d. New millwork at sinks and at storage cabinet Men's Room 109
  - e. New millwork at Toilet 111
  - f. New video array in Conference Room in Street Division building (gypsum board furred out flush with TV screens)
    - Video Array is 5 monitors
    - This is a subsystem to the primary system
    - Monitor cameras, weather stations and pavement sensor data in Conference Room for snow removal?
5. Upgrading HVAC
  - a. Test existing HVAC unit and rebalance defusers
  - b. Install new ceiling HVAC unit – TMC only
  - c. Install new condensing unit for TMC HVAC unit
  - d. Install duct units
6. Electrical
  - a. Install new backup generator
  - b. Install new UPS system for Communication Room
  - c. Update power entrance closet
  - d. Rewire power receptacles for TMC and offices
  - e. Rewire system cabling in TMC and offices
    - Including telephone and connections
  - f. Connect new lighting fixtures
  - g. TMC communication system cable layout and installation
- *Ed Turbyfill*
  7. Integration
    - a. Fiber termination
      - Existing fiber was terminated in rack 10 years ago
      - Redo termination on 144 panels

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- 244 fibers
      - More details can be found in the plans specifications
    - Fiber lines leave the TMC building and goes up Water Street to the intersection with North Roan Street to 2 hand holes
      - There have been problems with the existing splice closures needing to be reentered too often to make changes
      - Need to bring them up in new patch panels to allow easy jumpering (sheet 2W)
    - Hubs in field are in standard cabinets
      - Fiber termination point
      - Not needing to go into boots to re-splice
  - b. Software is different
    - VMware with virtual servers
      - More details can be found in the plans specifications about who provides what
    - Another major part – ACTRA replaced by TACTICS, which is Siemens new central software system
    - New maps – more details can be found in the plans specifications about this
      - Software provider will do this
  - Generator, UPS and HVAC is are major components
- *Mark Washing*
- **Fiber Optic Field Installation**
  - There are currently fiber and copper connections overhead and underground throughout the system
  - The new fiber system connects signals, pavements sensors, weather stations, internet, and other city facilities
  - Colored map was distributed that shows where existing fiber and copper that are overhead and underground (update attached) and discussed
    - Upgrade pull boxes so they can handle new fiber
  - Remove pull boxes, cut elbows out, replace to fiber standards – in area where existing conduit will be used.
    - Any sidewalk that is removed will need to be replaced from joint to joint
  - Existing pull boxes will need to be removed and be upgraded to fiber pull boxes
    - Take out the 90° bends in existing conduit.
    - Existing conduit to be used shall be tested for continuity before fiber installation.
  - Existing cabinet that has no spare conduit going to it
    - Many pad mounted cabinets will need to entered

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- Contractor may propose an alternate method to be approved by the City

*Anthony Todd*

- **Project Phasing**

- Contractor is responsible for providing a phasing plan that will be approved by the City.
- Fiber must be kept up and running except during planned and scheduled switch over periods
- Communication downtime for the following sections of roadway is to be minimized
  - Roan Street from John Exum Parkway to Oakland Avenue - 4 to 6 lane section of Roan Street
  - Market Street – 4 to 5 lane section from John Exum Parkway to Knob Creek Road
  - State of Franklin Road from University Parkway to Browns Mill Road

- **Concerns**

- a. 911 Communications connects to radio shop
  - To switch them over from the old system to the new system the work needs to be:
    - Scheduled with 911 and the Radio Shop for a weekend
    - Be complete in 48 hours
    - *Ed Turbyfill* said
      - Switch over happens at the TMC
      - Switch over will also happen at Water Street and Roan Street
      - Switch over will also happen again at State of Franklin Road and West Market Street
- b. Work that occurs in the vicinity of ETSU
  - Work needs to minimize downtime for ETSU area
    - Work during the summer while majority of students are out of school would help minimize impact to ETSU
- c. If any intersection is brought down on State of Franklin Road between University Parkway and Market Street, you bring down whole section to prevent time differences in the controllers
- d. Johnson City's Transit Center
  - Transit broadcasts real time information about bus schedules
    - This information uses the existing Traffic fiber
    - Minimize this impact by doing work on weekend
    - Keep Transit informed and work with their schedule
- e. Johnson City EMA
  - Uses Traffic fiber for connection to outside world
  - Used primarily on weekdays
  - Schedule with EMA work for weekend
  - Will need to be done multiple times
- f. City Hall

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- All computers, internet, facilities, phones, and other systems use Traffic fiber
  - Downtime would be a big disruption
- This work definitely will have to be done on the weekend
  - Work on weekend starting at 5:00 pm on Friday must be brought back up by 8:00 am on the following Monday
- g. Other City Facilities affected
  - Juvenile Court
    - Use Traffic fiber – work affecting them must be scheduled with them for a weekend
    - Information is stored at City hall that they need access to so they can do their work
    - Primarily function on week days
  - Johnson City Schools
    - Use Traffic fiber – work affecting them must be scheduled with them
    - Can tolerate more downtime, not as significant
- *Ed Turbyfill*
  - **Specifications** - Highlights on specifications – Some important points are listed below
    - **Section 1 - General Requirements**
      - **Paragraph 1.1.5 Complete Operational Systems**
        - Contractor provides equipment
        - Everything must work together
        - Contractor is responsible for a functional system
      - **Paragraph 1.3 Design Summary**
        - Existing fiber to be utilized
        - Evaluate existing conduit
          - Contractor must clear and repair as necessary
        - Currently on multimode
        - Existing is daisy chained
        - Will be switching to single mode
      - **Paragraph 1.8.1 Thirdly (30) Day Submittals**
        - 30 days after Notice to Proceed
        - List of all submittals
          - Not cut sheets
          - Schedule of when each of the submittals will be submitted
            - What is submitted
            - When is it submitted
            - Want a submittal program
      - **Paragraph 1.10 Payment Terms for 725 Item Numbers**
        - Storage for *725 items* can be paid for as shown in this section
    - **Section 2 Conduit**
      - **Paragraph 2.3.5 Conduit Wire Detection**

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- Detection wire outside conduit (except where existing conduit is being reused)
- Wire inside when boring
- **Section 13 TMC hardware**
  - Must be read in detail
  - TMC design submittal report
  - Wiring diagram
    - All the way down to the mouse into the work station
  - **Paragraph 13.2.1 (A) TMC Systems Design Report Submittal**
  - **Paragraph 13.2.1 (B) LAN**
  - **Paragraph 13.2.2 Hardware Requirements**
    - Read what it is, not provided with computer software
    - SQL database
    - 1 server network
    - 1 server for CCTV
    - Blade servers provided by City
    - VM software provided by City
    - One switch provided by contractor fully populated
    - NAS that is supplied by contractor
  - **Paragraph 13.3.2 Fiber Termination Installation**
    - Terminate 2 fiber cables with 144 fibers each
    - 12 fiber from City Hall labeled
- **Section 14 TMC Software**
  - Replacement of ATRA requires new drawn maps
  - **Paragraph 14.2.1.20 (e) and 14.2.1.21 Maps**
    - Draw big area maps
    - Contractor is required to do this for the City
  - **Paragraph 14.2.2 Network Management System Software**
    - The City may be replacing WhatUpGold, but at this time it has not been changed – contractor to assume WhatUpGold to be the City's software
    - Expand system by 1000 IP's or provide one
    - Include software
    - Contractor choice need NMS
- **Section 15 TMC Video Wall Equipment**
  - Different
  - Not cube based, thin bezel
  - 2<sup>nd</sup> video license at Street Division, which is about 200 yards away
  - Can control video wall from Street Division
  - Need direct number of licenses
  - **Paragraph 15.2.3 (6)**
    - 2<sup>nd</sup> video wall in Street Division
  - **Paragraph 15.2.3 (7)**

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- Allow Street Division to move cameras around
  - **Paragraph 15.3.1 (1)(D)**
    - Each connecting wire must be labeled
    - Labeling that it is going from here and going to there
- *Anthony Todd*
  - **Railroad Work and coordination**
    - Latter part of plans sheets show aerials
    - City has completed most of the work
    - Have done everything within 25 feet of railroad
      - No flagging should be necessary because contractor work should be outside the 25 feet horizontal clearance
      - We have done everything to minimize the impact to railroad
      - However, if contractor thinks that you need to work within the 25 feet horizontal distance, notify the City as soon as possible
        - Contractor will pay for flagging and insurance
        - Start early to minimize delays
  - **Bid Schedule**
    - Open bid date extended to December 17<sup>th</sup>
      - Addendum will go out on Tuesday for bid extension
    - Holiday may extend bid award
      - If so project time will be extended
    - Direct questions to Anthony Todd and he will find out the answers and report back to you
      - Need all questions by November 30, 2012
      - We will get questions answered as soon as possible
- **Questions**
  1. Are there a spare parts list and a quantity for spare parts? - *Bob Bebee* of World Fiber Technologies, Inc.
    - **Answer:** See the addendum
  2. Are there spare parts needed after construction? - *Bob Bebee* of World Fiber Technologies, Inc.
    - **Answer:** See the addendum
  3. Does the contractor use the existing span wire? - *Bob Bebee* of World Fiber Technologies, Inc.
    - **Answer:** Yes
  4. What is overhead utility relocate [725-10.23] for? - *Bob Bebee* of World Fiber Technologies, Inc.
    - **Answer:** This is for the removal / relocation of overhead cable as required throughout the project. The relocation part of this may include moving existing utility cable to meet code. The aerial fiber [725-10.28] covers installation of the fiber in this project.
  5. Is everyone okay with the contract time period? - *Phil Pindzola*, Director of Johnson City Public Works

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- 12 months to complete
  - Some felt it was short, but they would try to get it completed by then
6. Is everyone okay with the modified bid date? - *Phil Pindzola*, Director of Johnson City Public Works
- Everyone agreed that the bid date was okay