



**Project Management & the
Modesto Institutional Network
or
Herding Cats in Bellevue**

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June 21st, 2006

Disclaimer

- The content of this presentation contains my personal observations and opinions and should not be construed in any manner as the official position of any Government entity mentioned within this presentation.

Background

- Introduction
 - Ex Private-Sector integrator, consultant and “hired gun” from 1987 – 2004.
 - Currently the Deputy CIO for the City of Modesto.
 - Project Management experience is extensive, “Best Practice” Project Management experience is not.
 - Done well in the past with outcome-based, “all phasers on kill, too low in atmosphere approach (Kirk method)”
 - Gained a “special appreciation” for project management disciplines and the Project Management Institute after completing Modesto’s INET.

About the INET

- Neat INET Statistics (in no particular order)
 - 156 miles of fiber
 - 36 square miles
 - 115 sites
 - 6 strands of single mode fiber
 - 5 participants – (initially 8)
 - 20 million dollars
 - 20 subcontractors
 - 10 months
 - 8 “Project Managers”
 - Lots of angry people
 - A few happy people
 - Lots of people who didn’t care

About INETs

- INETs or Institutional Networks are a common provision of cable franchise agreements between CATV providers and Municipalities.
- They have existed for over 25 years, were typically COAX and varied between simple “free Cable to Government” to simple data connectivity
- Modesto had another idea for our new INET.
- The provider did not like Modesto’s idea - not one bit.

Modesto's Vision

- We knew that the provider would need to run fiber throughout our right of way to provide their 21st century services such as Video on Demand, high speed internet, VoIP, etc
- We knew that this fiber would be within range of virtually every City, County and Educational Office within the City of Modesto.
- So wouldn't it be wonderful if we made a condition of the Franchise Agreement, that the provider run fiber optic cable, paid for by the participants, in the trenches they were already digging?

Modesto's vision

- After 18 months of litigation, front page lawsuits, incidents and accidents, hints and allegations... both parties agreed to the idea of a fully constructed INET as part of the Franchise agreement.
- Now the easy part, gather together the interested parties to decide on the design and silly funding formalities...

The INET Begins

- This is where I came in. Introduction to the Project and my role as Project Manager came as a side-note in a conversation that included “Should be pretty simple, all the pins are waiting to be knocked down, we’ve already set them up for you”.
- Taking on the role, I jotted down a few notes on what I thought it would take to get this done. I called them my rules for “getting big ugly things done”.

Rules for Getting Big Ugly Things Done

- Read everything available on the subject
- Find out what the major stakeholders really want
- Stay Positive, always
- Always Keep moving, walk while talking
- Communicate often and effectively
- No winking, nodding or nudging
- It's a PEOPLE thing
- Be creative
- Keep focus on staying under budget, under time

First Stakeholders Meeting

- Called a meeting of the representatives of the 8 participants in the INET construction.
- Complete hate-filled session, complete with curse words, hissing and a general tone that I was just another liar and a long list of liars and that the INET would never happen.
- 4 or the 8 participants then left.

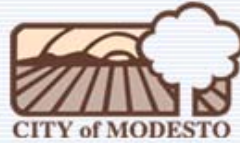
Individual Meetings

- I then scheduled individual meetings with each of the participants at their locations, knowing that people are normally less visceral without an audience.
- I went in with preprinted papers with only 2 questions
 - What is wrong with the project?
 - What needs to be done?

Results of Stakeholder Meetings

- The results of the meetings were enlightening, but the problem basically boiled down to communication problems.
- A lack of a cohesive communication mechanism combined with “less than positive” whispers had created an atmosphere ripe for rumors and innuendo.
- This became my first order of business. I got all parties to agree on a single communication source - all other sources would be considered invalid.

INET Web site



[Home](#)

June 21, 2006



About The Project

Meet The Project Team

Project Updates

Project Forum

Downloads

INET Website








Modesto I-NET > Updates - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Mail Print Address Book Favorites

Address <http://modestogov.com/inet/DesktopDefault.aspx?tabid=49> Go Links

Google truaux modesto Search 10 blocked Check AutoLink AutoFill Options truaux modesto



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Project Updates

Visit this section often to find out about any updates to the Modesto INET Project. Summaries of meetings, scheduled events and other project information will be posted here.

December 7th, 2004

INET Sites Schedule:

January 3 - 7
Sanitation Plant - 1221 Sutter Ave
Modesto Center Plaza - 1000 L Street
Senior Citizens Center - 211 Bodem ST.
Boy Scout Club House - 400 Ensen Ave.
John Thurman Field - 601 Neece Drive

January 10 - 14
Recreation Center - 720 Coldwell Ave.
Senior Opportunity Center - 416 Downey Ave
King Kennedy Memorial - 601 Martin Luther King
American Legion Hall - 1021 S. Santa Cruz Ave.
Maddux Youth Center - 615 Sierra drive

January 17 - 21
Graceda Park/Mancini Bowl - 410 Needham
Corporation Yard - 501 N. Jefferson ST.
Transportation Center - 9th ST. and J ST.
Airport Terminal - 617 Airport Way
Portable Building - 115 Elm ST.
Modesto Municipal Golf Course - 400 Toulmne Blvd.

August 9th, 2004

Contractor Selected and preparation for the INET begins!

About the Contractor

Although they are awaiting internal processing for the final announcements, Comcast has selected the firm CableCom for the primary contractor. They are a subsidiary of Dycom, they provide integrated telecommunications construction and engineering services nationwide. Based in Woodinville, Washington they have regional offices located in Utah, Maryland and California. Beginning in the early 1970's CableCom constructed over 20% of the original coaxial cable plant required by the cable television industry.

Current Status of build

INET Website



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Connecting our Fire Department

Among the greatest threats to any city is that of fire. Modesto puts a high priority in staffing and providing the Fire Department with the tools it requires to keep us safe. Part of the requirements of a responsive, professional, department is training. Every time centralized training occurs, the remote fire stations lose staff required for a quick response to fires.

With the INET, the department will be able to conduct broadcast training sessions on a daily basis without having to remove firefighters from their stations. Additionally, these training sessions can be stored digitally for "on-demand" viewing at a later time allowing training sessions to occur 24/7. Because of the ability to digitally store events - the public will be able to view educational sessions from the Fire Departments website such as CPR training, home fire safety, etc.

Unfortunately the events of 911 have demonstrated that it can be a dangerous world. The INET allows the City to maintain a highly secure, independent communications backbone that will allow voice and data communications even in the event of service outages.

Connecting our schools

Our partners include the Modesto City Schools, Stanislaus County Office of Education, and the Sylvan School District. With this fiber optic system in place, every one of the schools and the administrative buildings will be connected to each other at almost instantaneous speeds, opening the doors to an almost infinite amount of possibilities for the future of technology.

Some of the initial uses of this technology are to share internet access among all of the schools networks and to have a centralized network to share files and information among schools, teachers, and students. There are also not so distant future uses that can be seen as well, such as the use of IP phones. These network phones will use this fiber optic system for inter-district phone calls eliminating the need for many of the districts phone lines. Many other future uses would be remote surveillance and sensors. This would allow security to monitor what is happening in all of the schools from one location. This also would allow emergency personnel, such as fire fighters, to see what is happening and where in the building before they enter it.

With all these uses and many others not yet imagined, the fiber optic system will allow the district decades of expansion and use.



[BACK](#)

INET Website

- Magic Moment – the first time a participant said “We didn’t know such-and-such, no one told us, etc, etc” and I was able to, in the meeting, pull up a login verification and site log that proved the individual did in fact view the page with the information.

INET Materials



Institutional Network Informational Guide

About the INET

Modesto: A connected Community

Unlike towns and cities of an earlier era, built along railroads, waterways, or interstate highways, connected communities are built along the information highway. Modesto is leading the way with e-government initiatives and offerings that allow its citizens to interact in ways only dreamed of only a few short years ago.

The need for change

For 25 years, Modesto has utilized a coax/copper based infrastructure that is a combination of bandwidth from the cable franchise agreement and direct contracts with the local telecommunications provider. While this has served its purpose, it no longer is sufficient to maintain our operational needs nor will it allow us to move forward.

The need for Fiber optics

Even though the "telecom-revolution" of a few years ago has cooled down, internet use and capabilities continue to advance, in fact they are still growing dramatically. Combined with the increasingly digital nature of federal, state and local governments, the problem becomes evident - the City is running out of "digital-capacity". At this point, we have a few options:

- Contract with the telecommunication carriers for additional copper-based high-capacity lines
- Lease fiber-optic lines from the telecommunication carrier
- Run our own fiber optics

The first two options increase the City's costs dramatically, and offer no other advantages over the existing system. Normally, the third option, running our own fiber, would be cost prohibitive (\$20 million). Fortunately, we are in currently completing negotiations with Comcast over the franchise of cable TV service for Modesto. We have negotiated the right to have fiber optics run between all of our city sites for a fraction of the cost to run it ourselves. Although investing in our own fiber based infrastructure is fiscally prudent, its advantages are the "real story".

Connecting our Government

Modesto's government is much more than 10th Street Place. Spread across the City are Fire Department stations, Police offices, senior citizens centers, recreation facilities, and smaller remote offices that provide basic city services of almost type. After the fiber, all of these offices will be connected with high-speed, secure connections allowing citizens to receive better service across the City. This guide is designed to help give you a basic understanding of the fundamental issues surrounding the INET.

INET Materials



Institutional Network Informational Guide ***Phased Implementation***

We plan on a phased-approach that will prioritize the installation of the fiber and convergence technologies based on a variety of factors.

- 1** Public Safety
- 2** Utilities & Operations
- 3** Public Amenities

Within each category, we also consider:

- Cost Savings
- Efficiency Savings
- Contingency Use

Phase One: *Install edge equipment and integrated data networks at the Public Safety related locations.*

Phase Two: *Install VoIP equipment, converge the voice network, eliminate carrier circuits at the Public Safety related locations.*

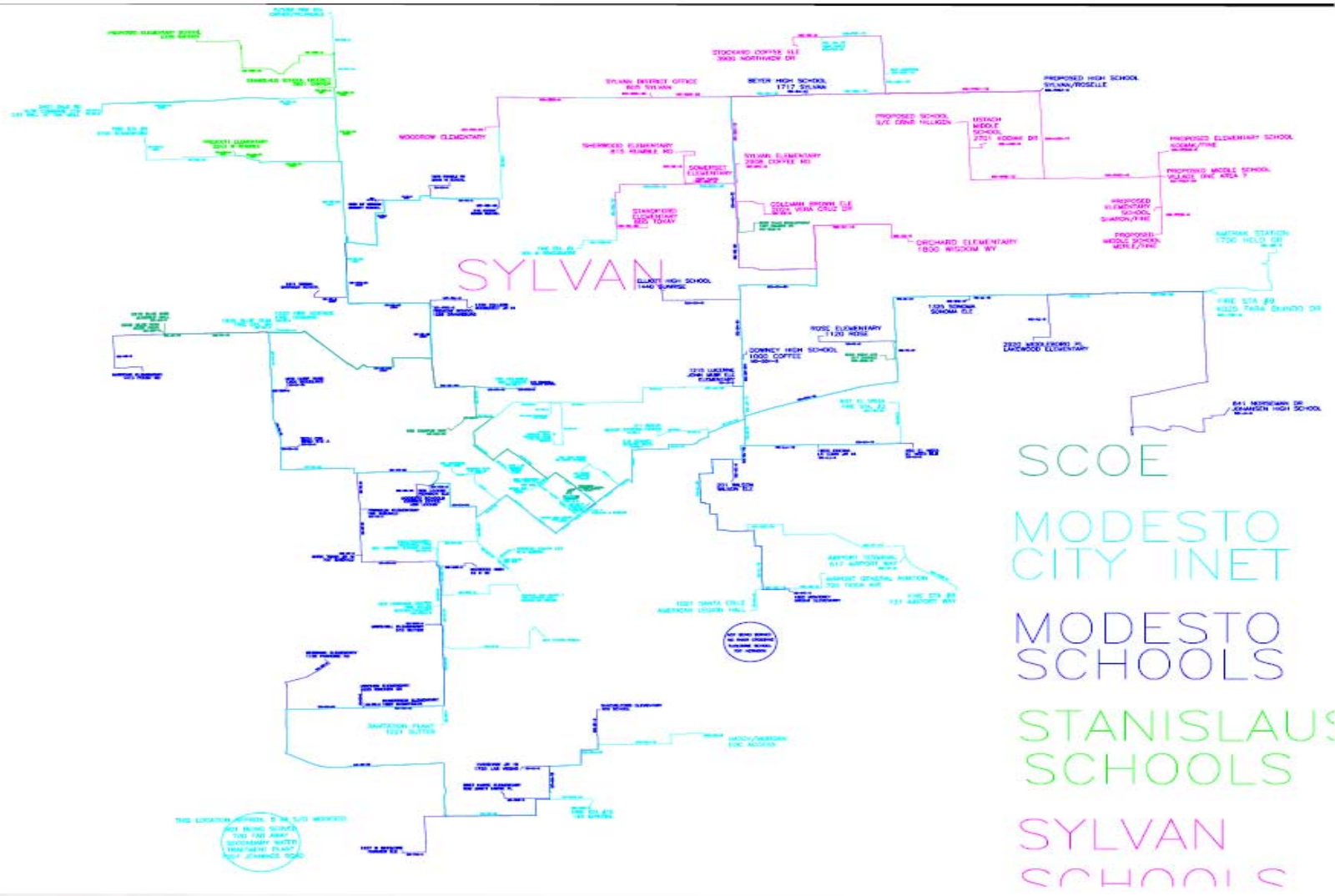
Phase Three: *Install edge equipment at the rest of the City sites based on established priorities.*

Phase Four: *Converge voice network, eliminate carrier circuits at the rest of the City sites based on established priorities.*

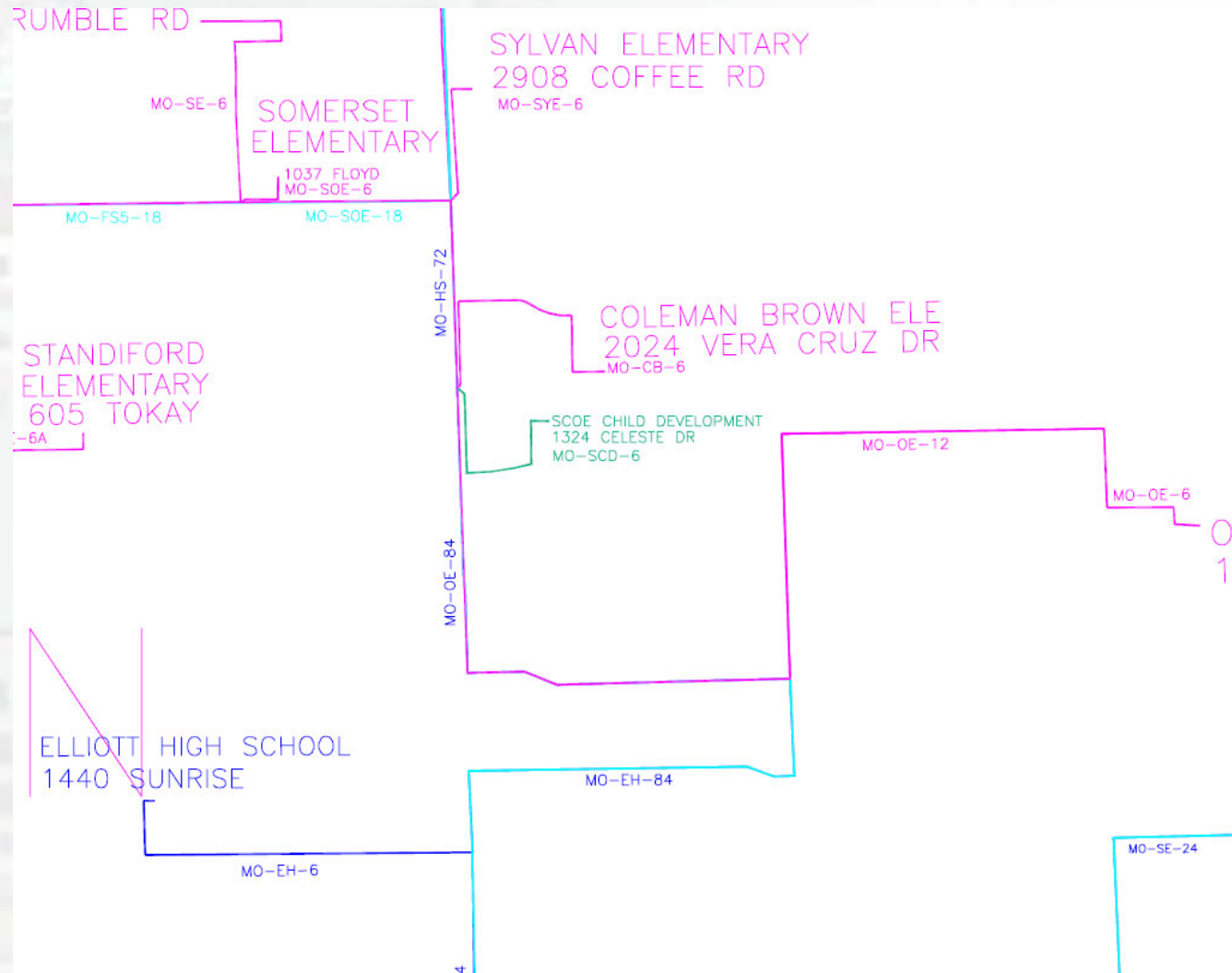
Design and Budgeting

- One of the advantages of having several participants was the economy of scale factor – we needed all players
- Detailed design meetings were held individually, to determine the actual sites and internal MPOE connections
- Designs were then consolidated internally and then presented to the provider for budgetary/costing information

INET Map



INET Map Detail



INET Costing Detail

	A	B	C	D	E	F	R	T	U	V	W	X
1												
2												
3												
4		GRAND TOTAL>>		93	\$3,124,490			\$1,304,395	\$73,055	\$1,157,926	\$461,256	\$127,858
5												
6		Hub Splicing >>			\$42,386			\$18,786	\$719	\$15,691	\$7,190	
7		# of Sites / Bldg Entry \$>>			\$765,000			\$ 315,000	\$ 22,500	\$ 277,500	\$ 105,000	\$ 45,000
8		Sub Totals >>		489,067	\$2,317,105			\$970,609	\$49,836	\$864,735	\$349,066	\$82,858
9		# of Fibers / Link >>>						6	6	6	6	6
10	Phase	CABLE NAME		TOTAL FOOTAGE	TOTAL COST PER SHEATH	NUMBER OF FIBERS IN SHEATH		City of Modesto	Stanislaus School District	Modesto City School District	Sylvan Union School District	SCOE sites
11	2002	MO-PM-12		8,294	\$26,924.22	12	\$ 26,924	\$ -	\$ -	\$ -	\$ -	\$ -
12	2002	MO-PM-18		1,723	\$5,868.30	18	\$ 3,912	\$ 1,956	\$ -	\$ -	\$ -	\$ -
13	2002	MO-SSD-12		865	\$3,414.11	18	\$ 1,138	\$ 2,276	\$ -	\$ -	\$ -	\$ -
14	2002	MO-SSD-6		450	\$2,025.78	18	\$ -	\$ 2,026	\$ -	\$ -	\$ -	\$ -
15	2002	MO-MS-24		3,205	\$11,508.05	30	\$ 6,905	\$ 4,603	\$ -	\$ -	\$ -	\$ -
16	2002	MO-PE-12		3,244	\$9,687.32	12	\$ 4,844	\$ 4,844	\$ -	\$ -	\$ -	\$ -
17	2002	MO-CS-12		1,281	\$4,315.69	18	\$ 1,439	\$ 2,877	\$ -	\$ -	\$ -	\$ -
18	2002	MO-FS6-12		2,058	\$6,417.34	6	\$ 6,417	\$ -	\$ -	\$ -	\$ -	\$ -
19	2002	MO-PRE-6		450	\$1,388.60	6	\$ -	\$ 1,389	\$ -	\$ -	\$ -	\$ -
20	2002	MO-FS6-6		3,191	\$13,546.19	6	\$ 13,546	\$ -	\$ -	\$ -	\$ -	\$ -
21	2002	MO-MS-24A		4,417	\$15,591.48	30	\$ 12,473	\$ 3,118	\$ -	\$ -	\$ -	\$ -
22	2002	MO-ES-36		1,749	\$7,326.82	48	\$ 3,663	\$ 916	\$ 2,748	\$ -	\$ -	\$ -
23	2002	MO-NWC-12		2,534	\$11,225.96	12	\$ 11,226	\$ -	\$ -	\$ -	\$ -	\$ -
24	2002	MO-NWC-36		1,559	\$7,167.55	60	\$ 4,301	\$ 717	\$ 2,150	\$ -	\$ -	\$ -
25	2002	MO-GS-6		1,870	\$5,460.85	6	\$ -	\$ -	\$ 5,461	\$ -	\$ -	\$ -
26	2002	MO-GS-48		3,634	\$23,448.25	66	\$ 12,790	\$ 2,132	\$ 8,527	\$ -	\$ -	\$ -
27	2002	MO-ES-8		4,048	\$25,783.72	24	\$ 6,446	\$ -	\$ 19,338	\$ -	\$ -	\$ -
28	2002	MO-ES-6		450	\$1,388.60	6	\$ -	\$ -	\$ 1,389	\$ -	\$ -	\$ -
29	2002	MO-DS-12		2,300	\$15,377.37	18	\$ 5,126	\$ -	\$ 10,252	\$ -	\$ -	\$ -
30	2002	MO-FS-48		2,931	\$28,056.86	78	\$ 12,949	\$ 2,158	\$ 12,949	\$ -	\$ -	\$ -
31	2002	MO-FS-48B		7,972	\$32,350.26	72	\$ 8,088	\$ -	\$ 18,871	\$ -	\$ -	\$ 5,392
32	2002	MO-FFS-6		375	\$1,230.57	6	\$ -	\$ -	\$ 1,231	\$ -	\$ -	\$ -
33	2002	MO-PM-6		375	\$1,230.57	6	\$ 1,231	\$ -	\$ -	\$ -	\$ -	\$ -
34	2002	MO-CH-6		375	\$1,230.57	6	\$ 1,231	\$ -	\$ -	\$ -	\$ -	\$ -
35	2002	MO-FFS-12		1,988	\$5,990.11	12	\$ 2,995	\$ 2,995	\$ -	\$ -	\$ -	\$ -
36	2002	MO-FFS-6		2,441	\$6,937.35	6	\$ 6,937	\$ -	\$ -	\$ -	\$ -	\$ -
37	2002	MO-PES1-6		2,081	\$2,433.34	6	\$ -	\$ 2,433	\$ -	\$ -	\$ -	\$ -
38	2002	MO-PES1-6A		6,368	\$10,364.45	6	\$ -	\$ 10,364	\$ -	\$ -	\$ -	\$ -

Executive Buy-in

- Costs were reviewed by the parties
- Designs would often be challenged to lower costs
- Redesigns would then be drafted, and the provider would give updated costs
- Committees, councils and boards then would be presented with the information for approval (across multiple Gov entities)

Second Thoughts

- The second largest participant, in a weekly meeting, casually mentioned that they were dropping out of the project.
- The INET was redesigned, and submitted to the now irritated provider for cost determination.
- Losing much of our economy of scale, the pricing for each participant jumped dramatically.
- Committees, councils and boards then would be presented with the new information for approval (across multiple Gov entities)

More Second Thoughts

- A voice mail message informed me that yet another participant had dropped out of the project.
- The INET was re-redesigned, and submitted to the now much irritated provider for cost determination.
- Losing even more of our economy of scale, the pricing for each participant jumped dramatically.
- Committees, councils and boards then would be presented with the new information for approval (across multiple Gov entities)
- The mean name-calling started again.

More Drama

- From the initial 7 participants who had signed letters of intent, only four remained when the smoke cleared.
- I presented 36 times to various levels of multiple government entities, each time telling a worse “up-front” fiscal, but overall positive story.
- On one occasion It was mentioned in a public forum that I was like a “thief-in-the-night, stealing textbooks and shoes from children”
- It didn't matter, I had the approval to go-ahead.

Getting it going

- I met with the provider to coordinate the installation of this fiber behemoth in our City.
- It was then that I found out 3 things.
 - They did not use Gantt charts or have a formal process for communicating to outside project managers
 - They planned on using over a dozen subcontractors who also did not have a formal process for communicating to outside project managers
 - They didn't appreciate any "City-staffer getting in the way by asking all sorts of questions"

Herding Cats

- I designated myself project manager-in-chief and opened up Microsoft Project.
- I held 3 weekly meetings
 - One for the Main providers PM staff
 - One for the Main providers and City's Executive staff
 - One for the subcontractors
- I personally visited each work site weekly and talked to the Forman and workers
- I found out no one cares about Gantt charts

Herding Cats

- These personal meetings were invaluable, as each work-site requires specific traffic plans, permits and approvals.
- About 20% of the time, proper paperwork and or approval had not been given by the City.
- I became close friends and lunch-buyers for out traffic and planning staff.
- I could have taken a harder stance, but we only had 10 months to get it done. Sometimes hard stances did need to get taken, however...

Example - Easter 2005

- Although explicitly forbidden in writing, a subcontractor decided to sneak conduit across the El-Vista bridge on Easter Sunday.
- A City inspector happened to be driving across that bridge on that day with his family.
- The inspector got out of his car, decided to test the conduit strength with his boot. The conduit gave way, and he fell 8 feet into the mud.
- The project was delayed 30 days

Getting the Equipment

- Meanwhile, we still had to design, validate, bid and award the equipment to turn the dark fiber into a fully functional Giga-Bit Ethernet network.
- We refined our design in this process cutting the cost from \$1.2 million to under \$500k
- A similar but separate process had to take place across the executive and Council levels of the City for this approval
- This happened during the holidays when 75% of meetings are canceled.

Getting the Equipment

- The winning bidder for the video portion informed us (after the formal award), that they had miscalculated and would not honor the bid.
- This was going to result in the loss of video services for our Fire Department
- I looked up the CEO of the firm (Fortune 100) on Yahoo Financials and then sent every variation of his name in email form complaining of what they did.
- The next day the firm honored the bid.

Internal Help

- Due to street construction, one of the Fire stations would be delayed. I met with the traffic director and traded 2 stands of his traffic fiber for 4 strands of eventual INET fiber. We had the station online within a week.
- I began to meet throughout the City with lower level management to discuss the INET refine our priorities of installation.

Completing the INET

- 2 days after the arrival of all the INET Data equipment, the last subcontractor completed the installation.
- Start to finish was 8 months, 13 days. We had 10 months.
- Total costs for the City was budgeted at 1.8 million. We completed it for \$512k.
- We have solid, positive, trust-based relationships with all participants
- I lost 15 lbs.

An aerial photograph of a city street scene, showing buildings, roads, and a large semi-transparent white rectangular box in the center. The word "Questions?" is written in black text on the white box.

Questions?