



You can't depend on your eyes when  
your imagination is out of focus.

Mark Twain



# Better, Faster, Cheaper

## The City of Garland's Journey to a New ATMS

Paul Luedtke, P.E.  
Director of Transportation

## What We Had...

- 182 Traffic Signals
  - Closed Loop System – dial-up
  - 36 miles of copper TWP (1974 vintage)
  - 1989 vintage controllers
- 7 CCTV cameras
  - Cable System
  - 1993 vintage equipment

## The Journey to a New ATMS

- It's a Journey - Not a project
- Vision
- Process
- Technology

# Vision



I saw the angel in the marble and carved  
until I set him free.

Michelangelo



# The Vision

A new system that the average citizen would notice through experience

## Goals

- Centralized – access to all data, video
- Universal Accessibility
- Autopilot – alerts someone when needed
- Cost effective – power of industry standard technology
- Maintainable by existing personnel
- Upgradeable with new technology

# Process

## System vs. Package

- Closed Loop – Off the shelf
- Centralized Distributed Signal System
- ATMS – CCTV, DMS,
- ATMS – Some assembly required

## It's A System!

- You Own It
- You Operate It
- You Maintain It
- You are the System Integrator

## Be Your Own System Integrator

- You can do it!
- Admit what you don't know
- Find Knowledgeable Expert
- Champion

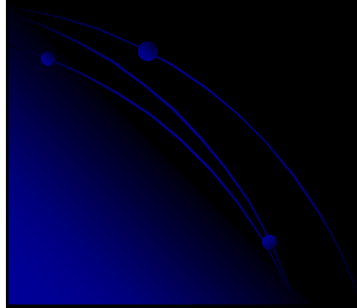
# Technology

## Technology

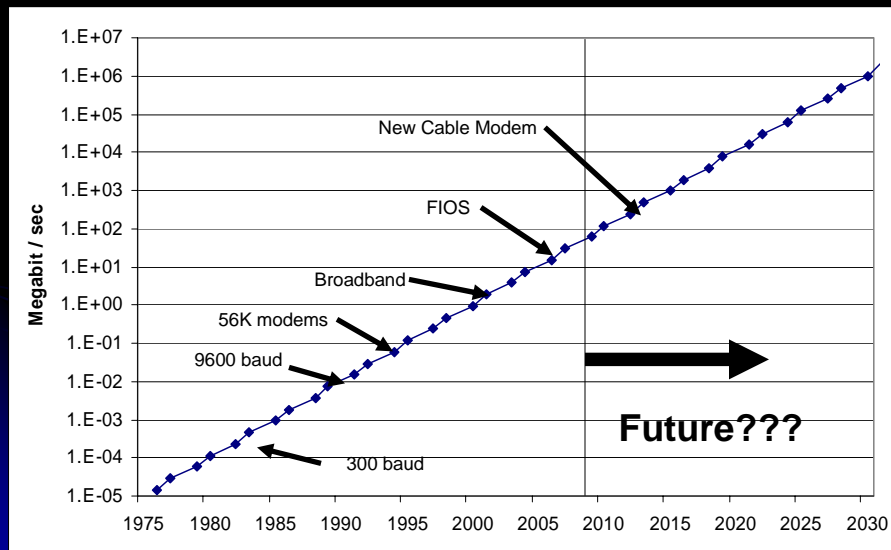
- We are a small industry – Hundreds
- Consumer market – HUGE – Millions
  - Development / Innovation
- Consumer “Toys”
  - HDTV
  - Cell phones
  - Video iPods
  - Broadband

# Moore's Law

- Computer processor power will double every 18 months

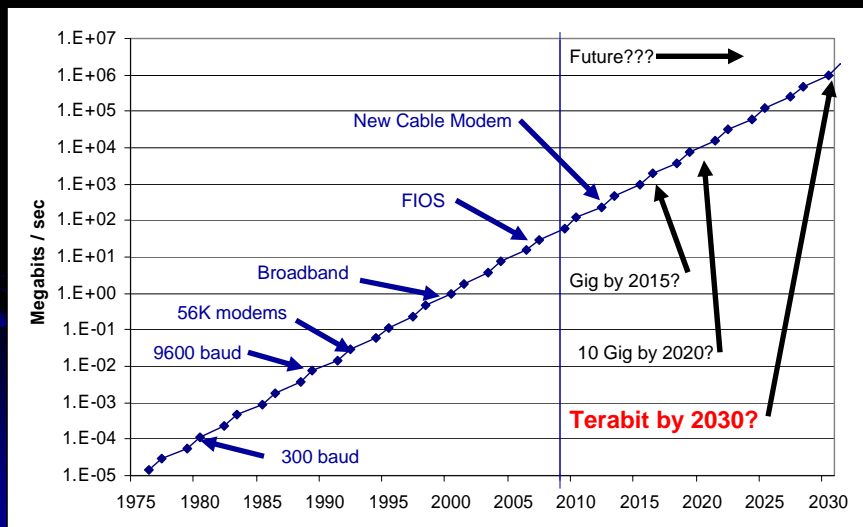


# Bandwidth to the Home





# Moore's Law for Broadband??



## Consumer Technology

- Better Faster Cheaper
- Prices Dropping Dramatically
  - Ability for average Joe to do things that only professionals could afford to do or had the expertise to do 15 years ago
- It can be hardened – test it – maybe it already is!
- At these prices does it matter?

## False Work

- Purchase promising units to test
- Test, Test, Test
- It's OK to throw some things away
- Some will not work
- Results in better end product

## Cross Functional Technology

- Internet
  - IPTV
  - Increasing Broadband speeds
- HDTV
  - Resources pouring into video as never before
- Fiber to the Home

## Fiber to the Home

- Extension Cords
- Cost of traditional fiber – maintenance
- Cost of low fiber count plug and play

## Internet Video

- Slingbox
  - San Francisco TV station (CBS)
    - 26 cameras
    - Streaming 800kbits wireless
    - \$800 full installation
    - \$60/month for service
- IPTV – set top box

# New Life for Copper

- DSL
- Ethernet Over Power – Traffic Signal Cable
  - White boxes

## Results

- Centralized – access to all data, video
- Universal Accessibility
- Autopilot – alerts someone when needed
- Cost effective – power of industry standard technology
- Maintainable by existing personnel
- Upgradeable with new technology

## Recommendations...

- Conduit with every road construction
- Wireless will never catch wireline
- Stay honest with yourself
- Admit what you don't know
- Stop using 20 year old technology