THE ENGINEER THAT COULDN’T
(OR SHOULDN’T)

By
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I am a Registered Civil and Professional Engineer with 37 years of experience dealing with Highway and Traffic Engineering issues.

I am NOT a Lawyer so I cannot give legal advice. If you need legal advice seek out a competent attorney.

I am an engineer with a lot of experience dealing with legal issues, as I am here.
What I am going to talk about has been significantly modified to prevent identification of the actual parties. Unfortunately I have seen the basic scenario several times in my career. If you think you have, please learn from your experiences.
WHAT WE ARE DOING HERE

- Talk about an engineer
- Talk about his experience
- Talk about those that supervised the young engineer
- Talk about the background of a signal design
- Talk about what transpired
- Talk about the lessons that can be learned
The Community

- Can-Do Attitude
- Three Engineers
- Lead is the Director of Public Works and a PE
- Senior Engineer is in overall charge and a PE
- Associate is Project Engineer and a PE
The Engineer

- Registered Engineer
- Minimal Experience
- All Experience in Masters Program
- No Practical Experience Designing Traffic Signals
The Supervisors

- The Director of Public Works
  The Director has 35 years Experience in all phases of the engineering necessary for a small community

- The Senior Engineer
  The Senior has 25 years Experience in all phases of Engineering including Acting Public Works Director
The Assignment

- Congested Intersection needs cleaning up
- Existing is four-way stop with considerable turning movements
- No previous accident history (a couple of PDOs)
- Community normally retains consultants for design
- Funds for construction but not for consultant
The Beginning
The Start

- Engineer decided (with Can-Do Attitude), he can do this
- Used most recent plan developed by consultant for base
- Existing plan was Permissive Signal
- Necessary changes drafted into contract
- Project Constructed
- Young Engineer felt good
The BOMB

- Within first week was a complaint about a near miss (whatever that is)
- Within 3 weeks was a fatal accident involving a left turning vehicle being hit broadside
- In 5 months were 6 major accidents (two injury and 4 fatal)
- The complaints never let up
- A Change was necessary
- NOW
The Problem
The Issues (for Here)

- Did you notice I never said the design was reviewed?
- Have you ever met an extremely capable academic with significant confidence levels?
- The two supervisors were very busy running the small community staff and contract personnel
- Who is responsible for training of registered professionals?
- Who is responsible for insuring project issues adequately identified and considered?
The REAL ISSUES

- Notice I haven’t described the real cause?
- Effect of Geometric decisions
- Effect of Sight Distance
- Copying a plan without knowing what went into the decisions contained in it
- Who is responsible for insuring young engineers are properly trained?
- How much oversight is necessary for a PE?
The Big Picture
The Final Solution

- The Director grew tired of waiting for the problems to be resolved.
- Direction was given to convert the signal to a protected left turn
- The accident problem went away
- The question is did the real problem get solved? Are inexperienced engineers getting proper guidance?
To quote Paul Harvey

- Would you like to hear the rest of the story?
The Rest of the Story

- The third crash triggered a lawsuit
- During a re-enactment, while filming, a seventh accident was narrowly avoided
- The young engineer kept detailed records of all contacts including all that had complained
- The film and all that complained became a part of the lawsuit
- The community paid significant dollars
- The real loss was in Human Lives and Injuries
- Remember the cost of Unethical behavior
contact information

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