Vehicle Technology Tools

Increasing Safety

Presented at CALACT Fall Conference
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Agenda

- Introductions
- Expected Outcome
- Overview
- Why Electronic Inspections
- Most Useful Features
- Questions

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  17 at Ford Motor Company (Dearborn, MI / field)

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Dr. Michael St. Denis

- 30+ years in the automotive business

- Former Engineer at Ford Motor Company

- Principal at Revecorp, a data and engineering company

- Extensive work with the state and federal government on vehicle emissions and safety standards and testing

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Expected Outcome

To provide each attendee with actionable information from the slide presentation, questions and handouts to be used when considering pre-trip, post-trip and maintenance safety inspection solutions.

Overview

- Why electronic Pre-Trips, Post-Trips, Driver Swaps and Maintenance inspections?

- What inspection system features are the most useful?

- Collect vehicle, driver, location and inspection data together
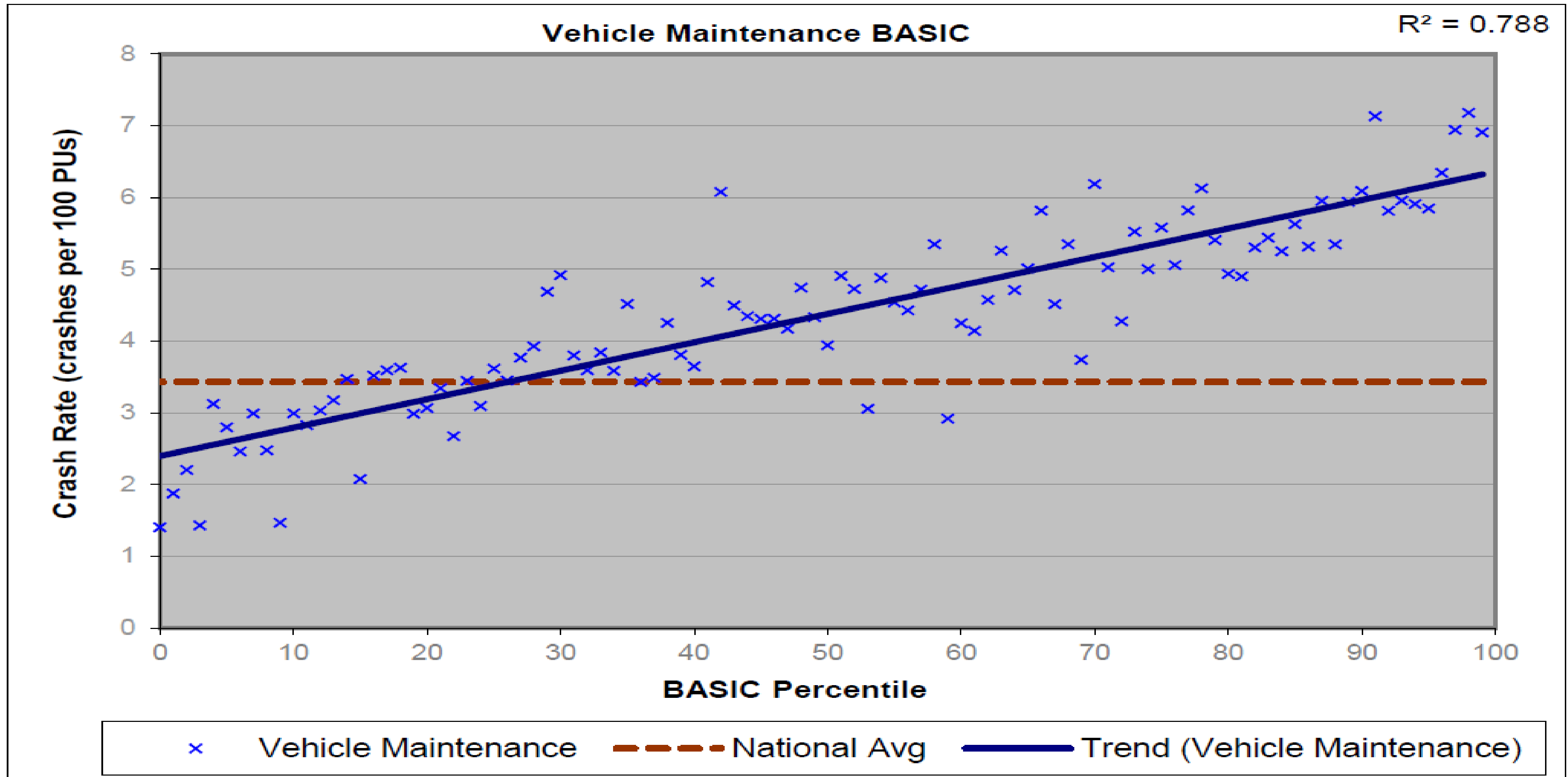
- Use and management of the data

Is an electronic inspection system right for everyone?

Show of hands...Who here has an electronic inspection system?

If you do inspections on paper, what is that costing you, to get filled out forms - as opposed to actionable data?

Why would you want an electronic pre/post-trip, driver swap and maintenance inspections?

FMCSA data shows well maintained vehicles are much safer

Vehicle Maintenance BASIC

$R^2 = 0.788$

Crash Rate (crashes per 100 PUs) vs BASIC Percentile

Legend:
- × Vehicle Maintenance
- - - National Avg
- — Trend (Vehicle Maintenance)

Why electronic inspections?

A good inspection software solution will:

- Create confidence that an inspection is performed thoroughly and properly
    - Was it done? When? By Whom? How long did it take?
    - Was everything truly inspected?
    - Could lower insurance costs
    - Can protect drivers if something happens
    - Vehicles do not leave the yard with failures
- Require less training and drive more consistently performed inspections

Why electronic inspections?

Does the solution:

- Get data into the maintenance queue quickly?
    - o Can be tracked for CHP inspections
    - o CCC – Concern, Cause, Correction – cradle to grave

- Have an OBD II interface to speed up the process?
    - o Automatically collect VIN, fuel level and odometer
    - o Automatically cycle lights

- Less expensive than paper!

- Generate digital data?
    - o Triggers automatically set against the data
    - o Easy to analyze

What inspection system features are the most useful?

Can it be deployed quickly, easily and inexpensively?

- No hardware to be installed/maintained on the vehicle

- Minimal inspector training

- Standard data analysis tools (reports, filters, etc.)

Management Features

Is the system managed through a simple web portal, accessible from anywhere?

- User can customize inspections process at any time themselves – the inspection process is not static

- Customize inspections by vehicle, vehicle type, inspection type

- Set your own pass/fail/warn logic and criteria

- Should be about access to data, control access and reports

An Ideal System Should…

- Document issues with pictures, video and/or written comments during the inspection

- Allow the order of responses to be randomized

- Collect where the driver was when they checked each item

- Calculate the distance traveled and the time to inspect each item

- Show where your vehicles are on a map (track vehicles)

- Allow you to own your data!
  - You should be able to access or download it at any time
  - Even after your contract expires, at minimal cost

Tablet Features

Does the system require you to use a particular tablet?

- Can you buy your own hardware?

- Can you use existing hardware?

- Is a "hardened" tablet, mounting solution, etc. available?

- Is the tablet tied to the vehicle or can any tablet be used by any driver on any vehicle?

- Can the tablet be used for other purposes (e.g., routing, maps, etc.), or is its operation locked?

Maintenance and Data Sharing

Does it provide a simple maintenance tracking solution integrated into the inspection software?

- Do failures get instantly transmitted for repair?

- Can you track failures from the driver identifying them, to correction and the vehicle going back in service?

Does it interface with other technologies? Provide APIs?

- Get vehicle, driver data?

- Export maintenance data?

Features Summary

- You have to measure safety - to manage safety

- There should be real reliability and safety benefits as you learn what is working and what is not

- The system should save cost over paper to operate

- The drivers and maintenance staff will both appreciate knowing each other is being helpful

- Audits should be easier

A handout with a list of ideal features is available.

Questions

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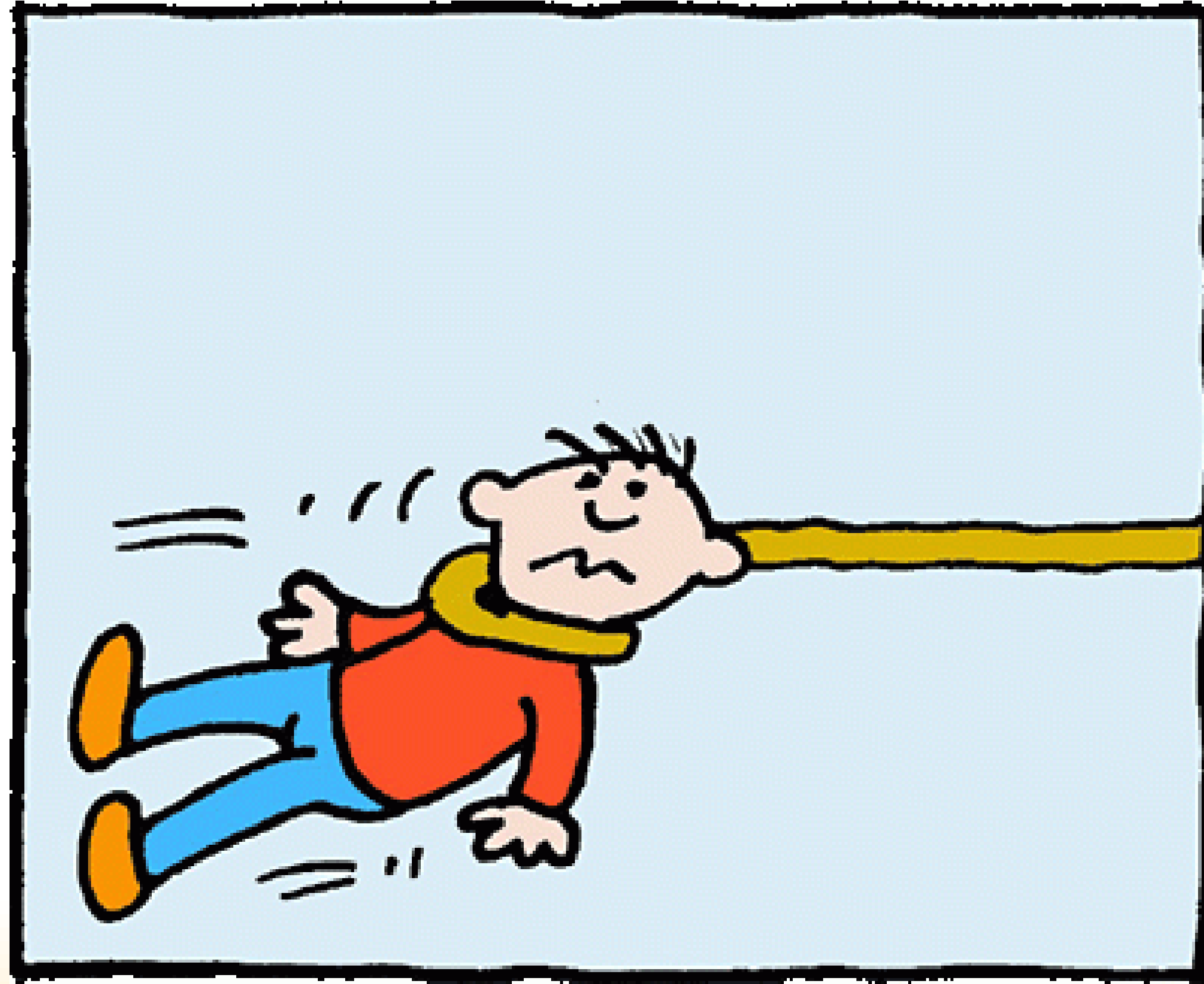5732 Lonetree Blvd
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Thank You