



Driving the Science Behind Traffic TM

Actionable, Accurate Traffic Information

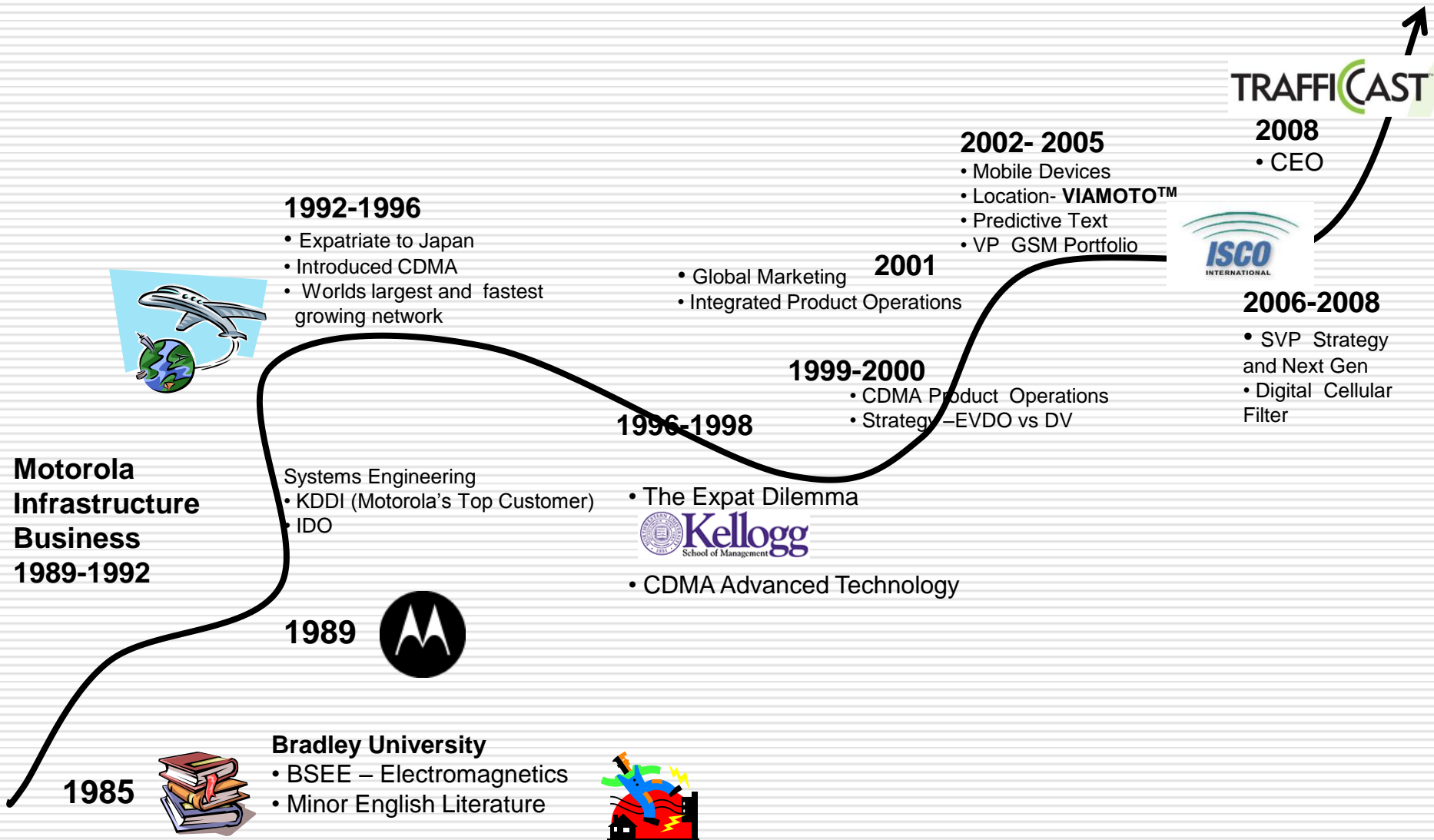
Northwestern Engineering

CCITT

Center for the Commercialization of
Innovative Transportation Technology

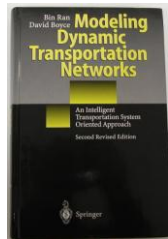
November 2010

Campbell Career Timeline and Experiences



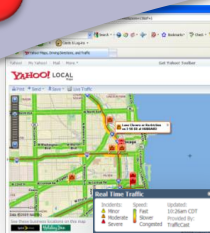
we are staying focused

1999:
TrafficCast
Incorporated



1999-2002:
Research &
Technology
Development

2002-2005:
Penetrate
Commercial Sales
Channels
(Yahoo, Google,
Westwood One)



2006-2007:
Commercialization,
Product Development



2008-2010:
Growth, Expansion
(TomTom,
deCarta, xDOTs)

We are a leading provider of digital traffic information for consumption *in mobile devices, online and broadcast media.*

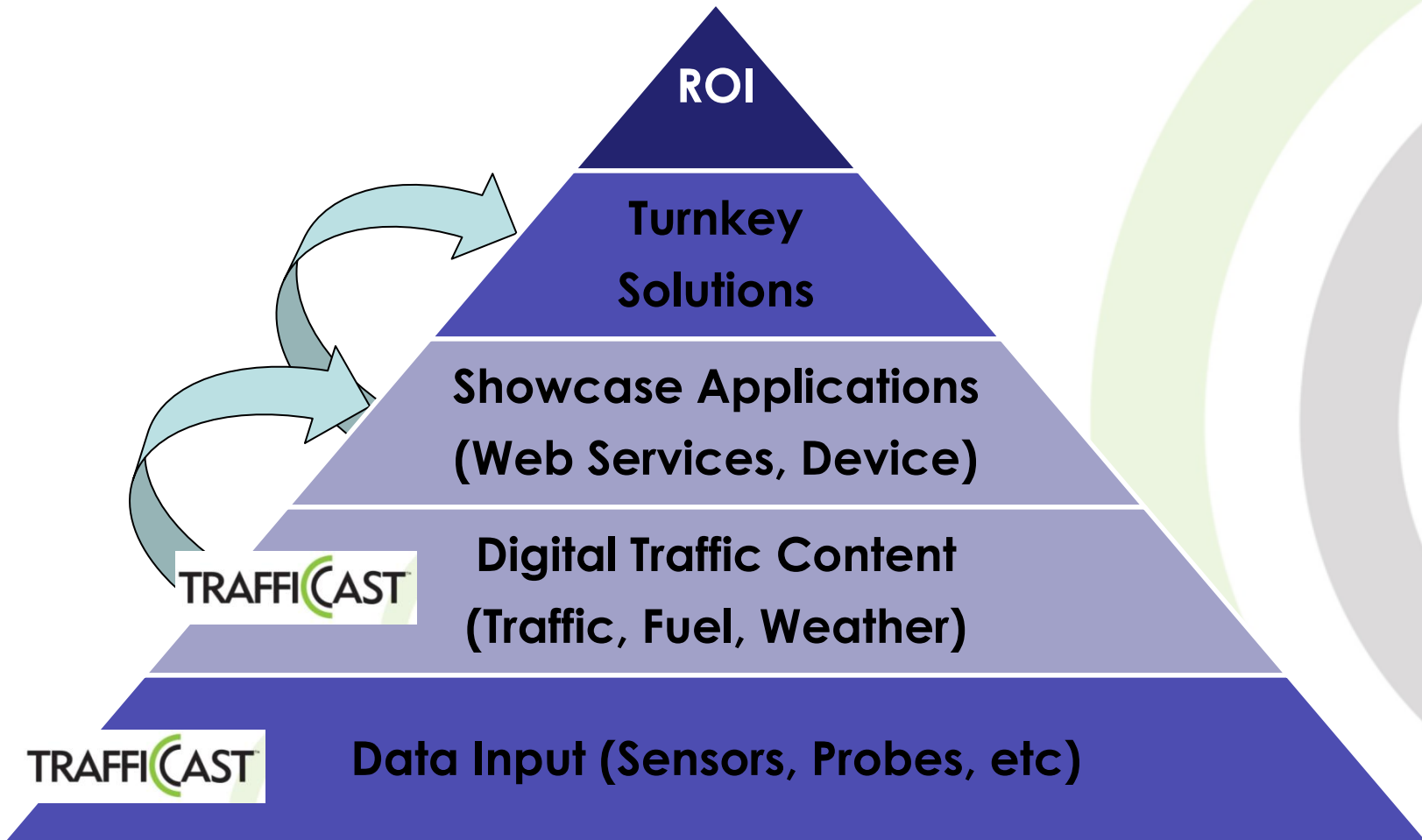
We aggregate & analyze all types of traffic related data: speed, incident, construction, weather.

We have changed the digital traffic content landscape by *introducing patented software & scientific models* for real-time and predictive traffic information

Dynaflow

 **BlueTOAD**

Chicago Philadelphia Madison Shanghai



- **Experience Across Traffic Engineering, Public Sector, Telecommunications, Mobile Devices, Media**
 - Motorola
 - Econolite
 - Ericsson
 - Navteq
 - Dash
 - CBS
 - University of Wisconsin
- **Headquartered in Madison, WI**
 - Shanghai, Chicago, Atlanta, Philadelphia





Dynaflow

Our Intellectual Property:

Processing

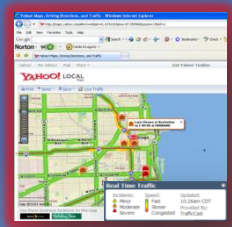
Integration

Normalization

Fusion

Modeling

Prediction



Dynaflow Cloud Computing

Traffic Data and Analysis Resources and Services are abstracted from the underlying infrastructure and provided "on-demand" and "at scale"

GPS Probes
Weather
Incidents
Historical

- Traffic Logic (Historical)
 - > 2 Billion Points
- Dynaflow 2.0 (Real-time)
 - Updated every 60 seconds
- Dynaflow 3.0 (Predictive)
 - Up to 48 hours into the future

the market develops ...

“Real-Time Traffic Service Revenue to Boom Over the Next Five Years”

Real-time traffic information is emerging as a must-have feature in automotive navigation and telematics solutions, causing global revenue from service subscriptions to rise by nearly a factor of 18 during the period from 2008 to 2014”

- iSuppli (July 2009)

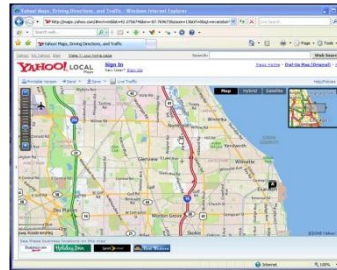
“The number of traffic information users globally is expected to grow to more than 370 million by 2015, up from 57 million this year, according to new data from ABI Research, which also found that traffic information remains the most important feature of mobile navigation services.... This will motivate independent traffic information vendors like INRIX, TrafficCast and ITIS to market themselves to the high margin automotive and government segments, ABI Research said. And the field is growing, as startups like Waze and Aha Mobile have entered the low end of the market with traffic information based on passive and/or active community feedback, the report noted.”

ABI Research July 2010

Content Quality



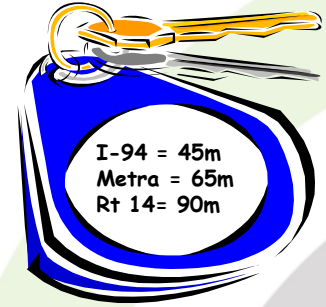
All traffic to all consumers



Route Personalization



Map
Text
SMS
Voice



I-94 = 45m
Metra = 65m
Rt 14 = 90m

“Personalized Travel Times”

Increasing consumer value due to personalization

Traveler Information Applications; Everywhere ... which drives content

iPhone 3G

Features App Store iTunes Gallery Tech Specs Buy iPhone 3G

App Store



Applications unlike anything you've seen on a phone before.

Applications designed for iPhone are nothing short of amazing. That's because they leverage the groundbreaking technology in iPhone — like the Multi-Touch interface, the accelerometer, GPS, real-time 3D graphics, and 3D positional audio. Just tap into the App Store and choose from thousands of applications ready to download now.

[Browse the App Store in iTunes](#)

Thanks a billion.

Over 1 billion downloads in just nine months. Only on the App Store.

3 billion as of Jan 2010
100,000 Apps



- iPhone
 - GPS Apps = 1040
 - Travel Apps = 2440
- BlackBerry
 - GPS Apps = 17
 - Travel Apps = 41



Samsung, LG, others have now ALL announced App Stores



Smart Phone Connectivity



Personalized Content



User Interface

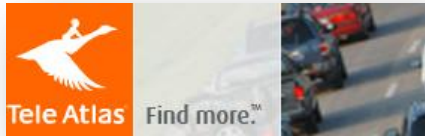


The “Crackberry” Effect

**our momentum
continues**



- TomTom is a world leader in Personal Navigation Devices
 - 740 and 340 moving in market
 - iPhone App is meeting forecast



- TeleAtlas - Contract Signed.
- Dynaflow on all U.S. map content



- Contract Signed



- Working through data evaluations and testing



- Earlier MotionX GPS reached 1M downloads in 9 months on iPhone
- CEO Philippe Kahn (Borland, StarFish, LightSurf)



- Rand McNally
- Won business for PND, Web and Dispatch

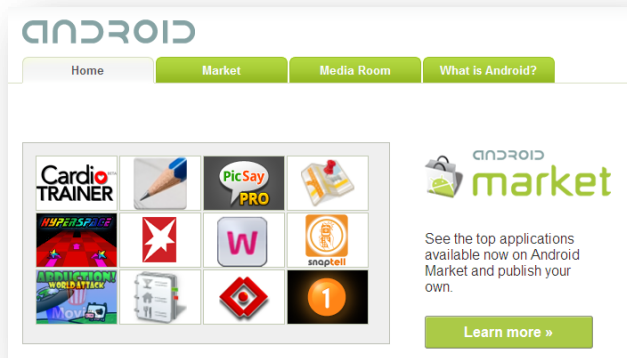


- Currently traffic.com customer

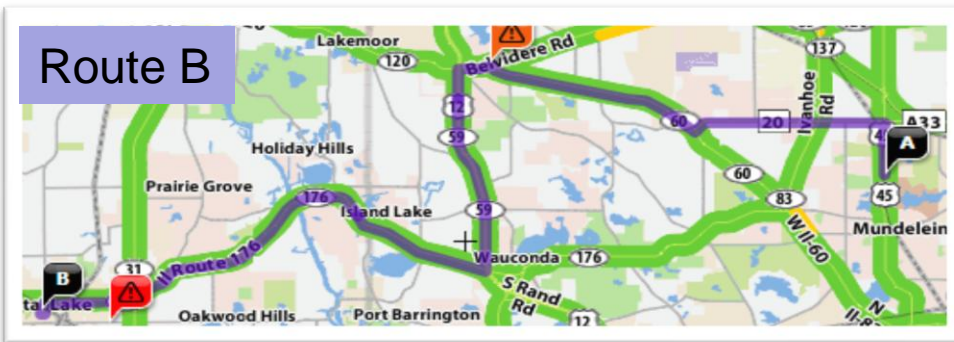
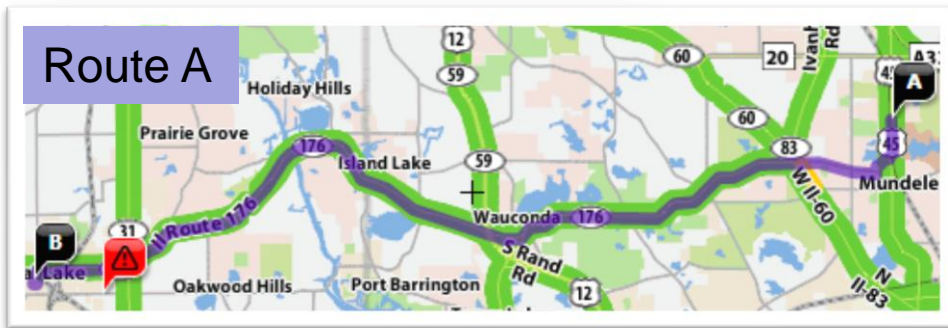


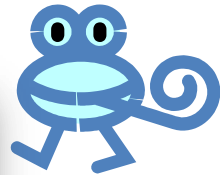
- Compare Current Onstar vs. TrafficCast Powered Traffic and Weather





- Android Widget for Travel Times
- Record Favorite Commute Routes
- Request Current/Future Travel Times by Route



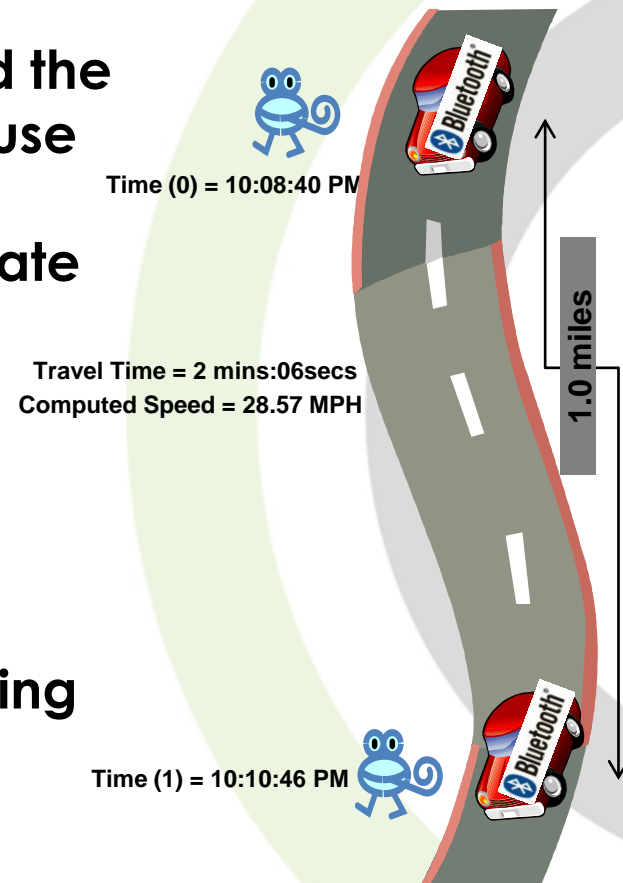


BlueToad™

- TrafficCast has leveraged the mobile phone industry's use of open hardware and software platforms to create BlueToad

- Key Features

- Local and Wireless Operation
- Zigbee mesh networking
- GPRS/EDGE/3G/4G



Patent Applied for April 2009

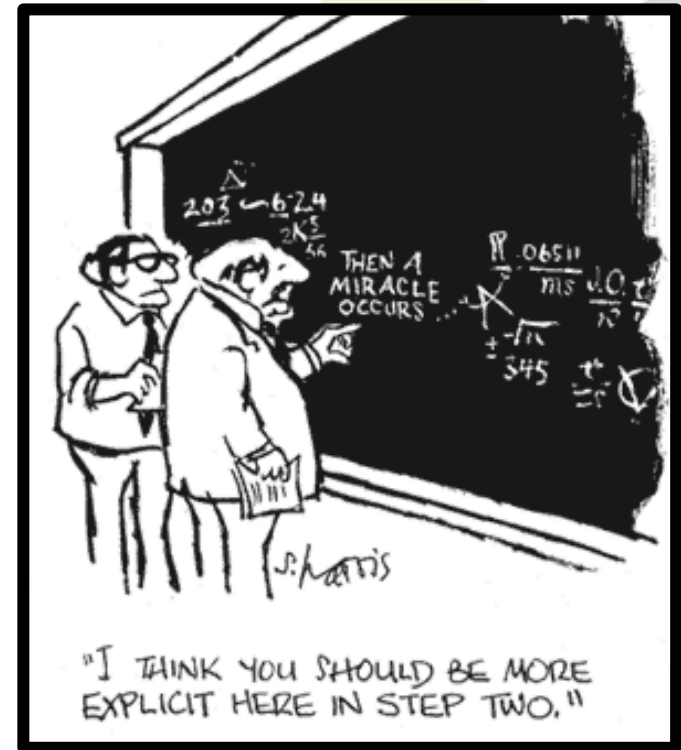


- TrafficCast provides Accurate Travel Times thru Eisenhower Work Zone
- Expect Wide Work Zone & Arterial Coverage Exclusive to TrafficCast
- Click on link below:
 - <http://abclocal.go.com/wls/story?section=resources/traffic&id=7473453>

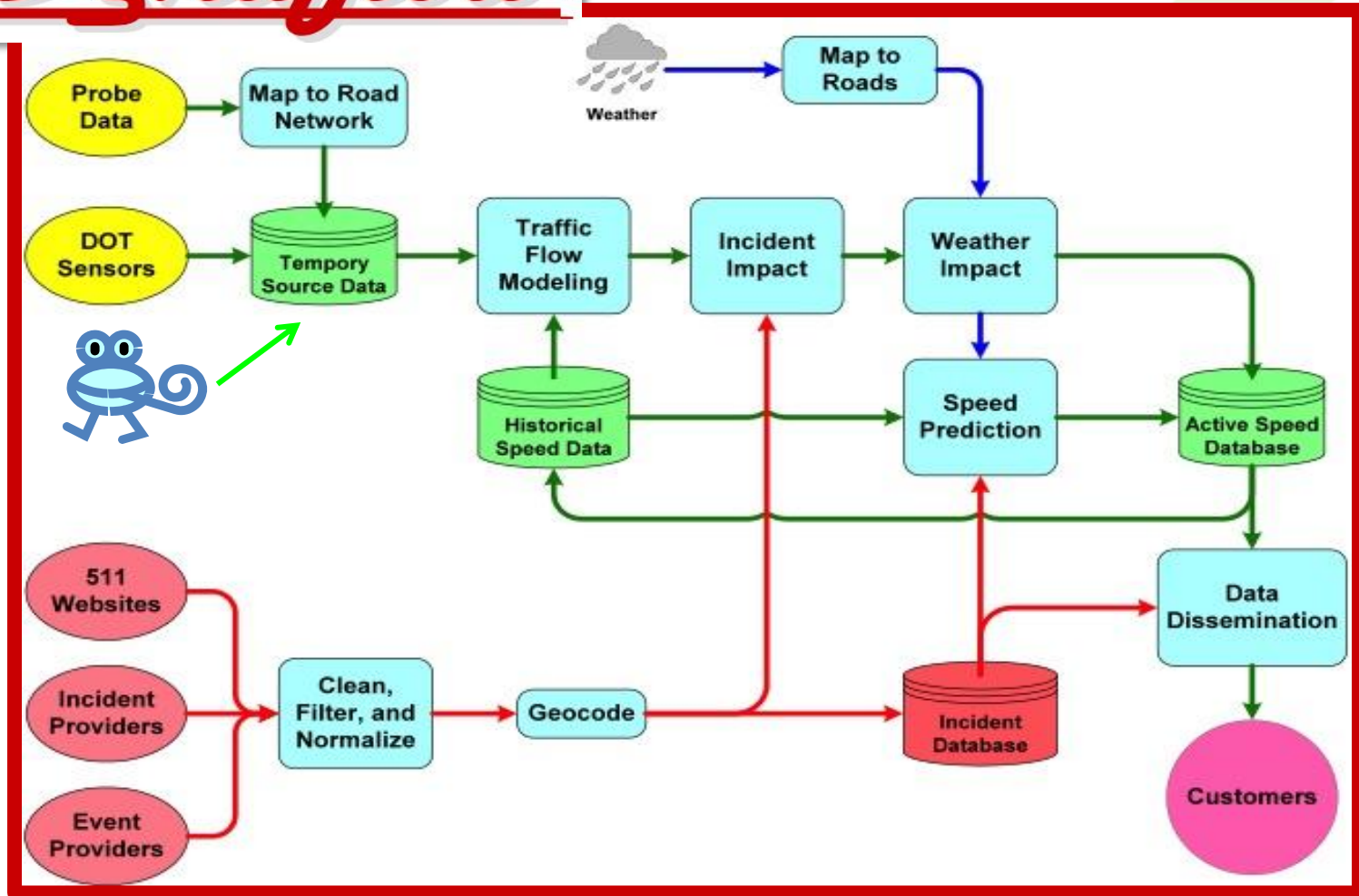


How did we do it?

1. **Founded by traffic engineers** with a very scientific model approach to traffic information systems
2. Ability to collect, process and **filter** data from a **multitude of sources**
3. State-of-the-art, **patented analytic models** to generate real-time and predictive traffic information
4. Real-time analysis to accurately predict how incidents impacts traffic flow **"We see the future"**



Dynaflow



Home > Groups > IDOT >

North Ave to St Charles

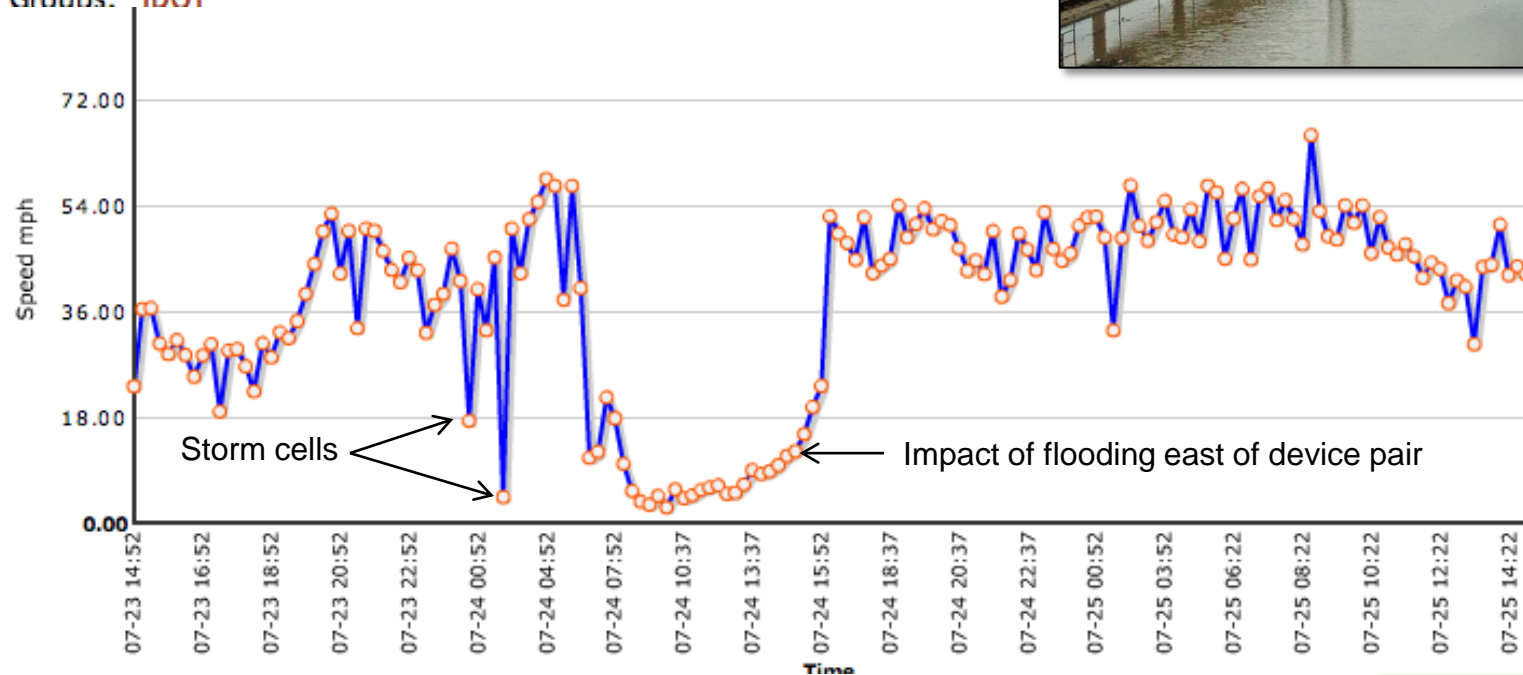
Distance Between:

1.6

Direction from d1 to d2:

East Bound

Groups: IDOT



Severe Storm hit region around midnight on July 24; flooding effectively shut down the Eisenhower east of St. Charles from 6am to mid-afternoon.

How can you do it?

CANAAN PITCH WORKBOOK

Opportunity (2-5 pages)

**Tell Us:**

- » State the problem; describe the pain.
- » Why does the problem persist?
 - Define recent trends that make your solution possible.
 - How is it currently addressed?
 - Why are we at an inflection point now?
- » Identify the market size.
- » How does this market change and grow over time?

$$\begin{array}{r} \text{(Clear) Problem} \\ + \quad \text{(Large) Market} \\ \hline = \text{(Great) Opportunity} \end{array}$$

**Key Objective:**

Establish the need for your company's solution and convince us that solving the problem is worth the effort.

CANAAN PITCH WORKBOOK

Solution (2-6 pages)

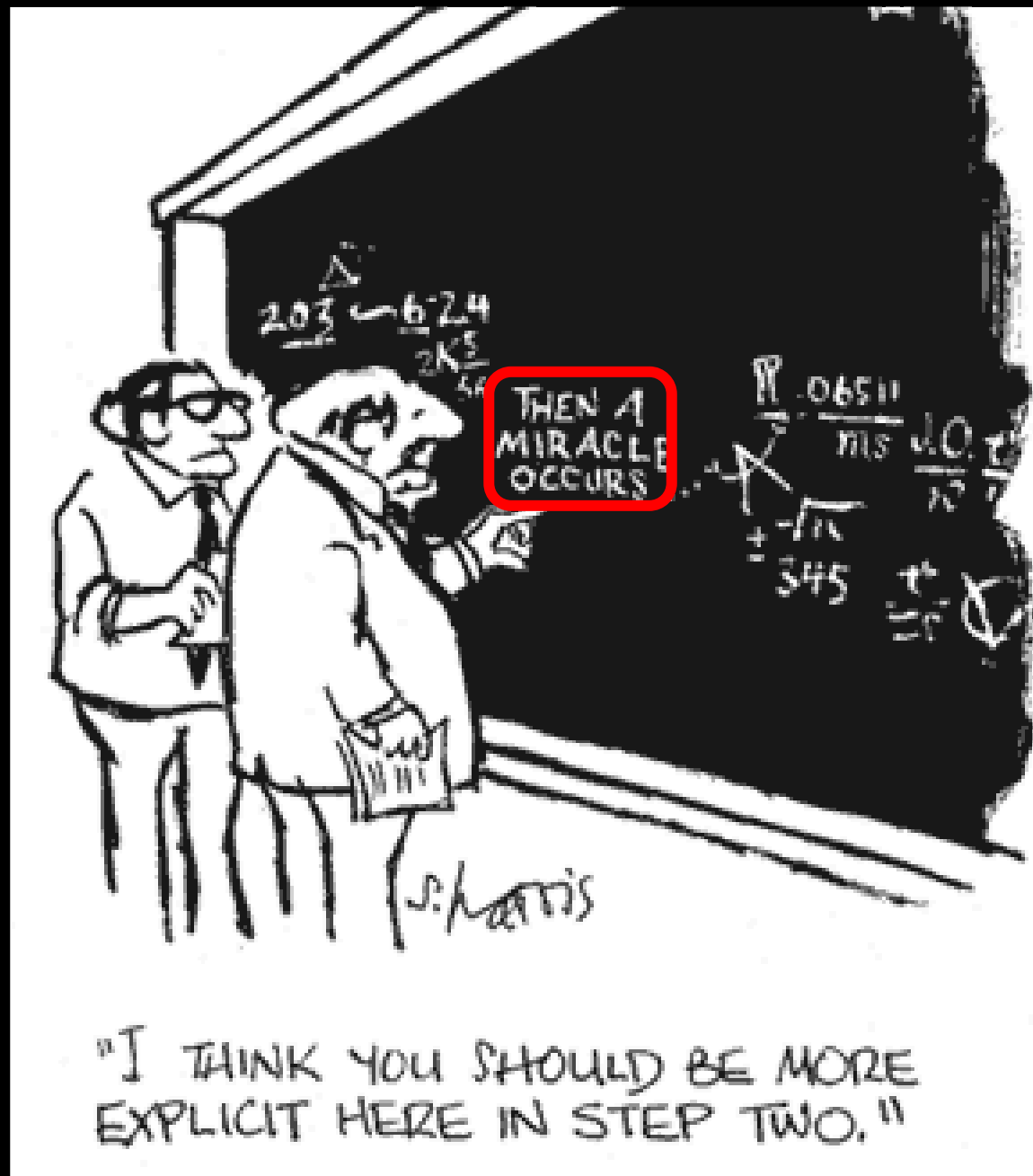
**Tell Us:**

- » Demonstrate your solution.
- » Validate your differentiation.
- » Explain your technology / IP.
- » How is the new solution better?

**Key Objective:**

Help us understand how you will solve the problem.





Is ...

- **Hard Work**
- **Solving real problems**
- **Darwinian**
- **Relationships**
- **Evolving**
- **Differentiated**

Isn't

- **Just a better mousetrap**
- **Always “Time to Market”**
- **Necessarily Complicated**
- **Niche**
- **Complimentary (focus on displacement)**

JUST DO IT.





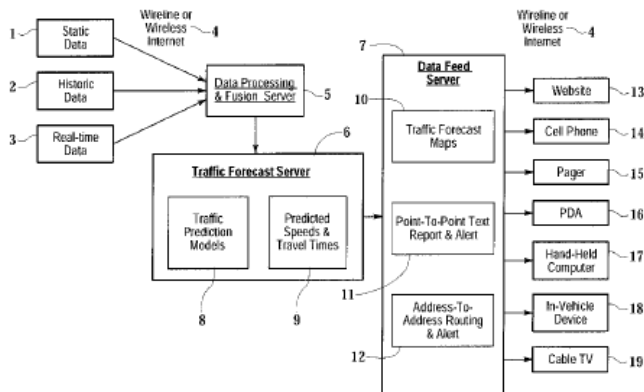
Thank You

***Neal Campbell
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UNITED STATES PATENT AND TRADEMARK OFFICE

An Agency Of The United States Department Of Commerce

- Patent No.: US 6,209,026 – Central Processing and Combined Central and Local Processing of Personalized Real-Time Traveler Information over Internet/Intranet
 - March 27, 2001 with 20 Year Term
 - This patent covers all internet and intranet , wired and wireless, collection and delivery of travel time information including all forms of personal transportation such as auto, air and train
 - This touches all major handset OEMs, Yahoo, Google, Expedia, Garmin, TomTom, BMW, Ford, Toyota, etc
- Patent No.: US 6,317,686 – Method of Providing Travel Time (*TCI Fusion Model*)
 - November 13, 2001 with 20 year term
 - Technical method for Patent # 6,209,026
- Patent Application – Method and System for a Traffic Management System Based on Multiple Classes (BlueTOAD)
 - Applied for April 3, 2009
 - Covers any Bluetooth sampling and resulting travel time calculations.
- Patent Application – Method and System for a Traffic Management Network
 - Applied For April 23, 2007
 - Covers dynamic assignment of traffic to a plurality of users



World-wide Traffic Information Subs by Device Type

