PERIMETER

What We Can Learn from Everyday Metrics

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February 27, 2012

Agenda

Two stories

Examples from everyday life

Discussion

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- Two stories
- Examples from everyday life
- Discussion

Metrics: truisms I live by

It’s all in the delivery

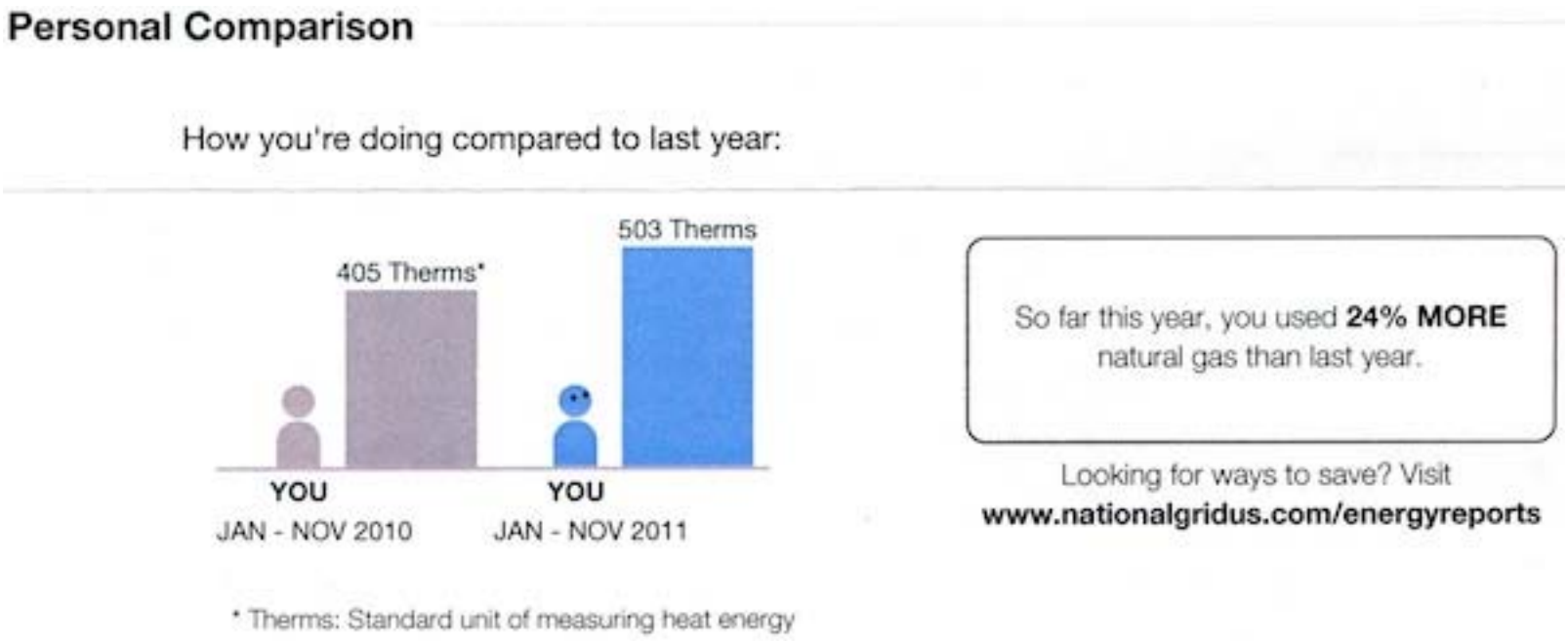
The person with the prettiest chart wins

Narratives matter

Methodology discussions means you’ve lost

National Grid, “Personal Comparison” exhibit

Two-period comparison of gas usage by ARJ’s condominium association



Data

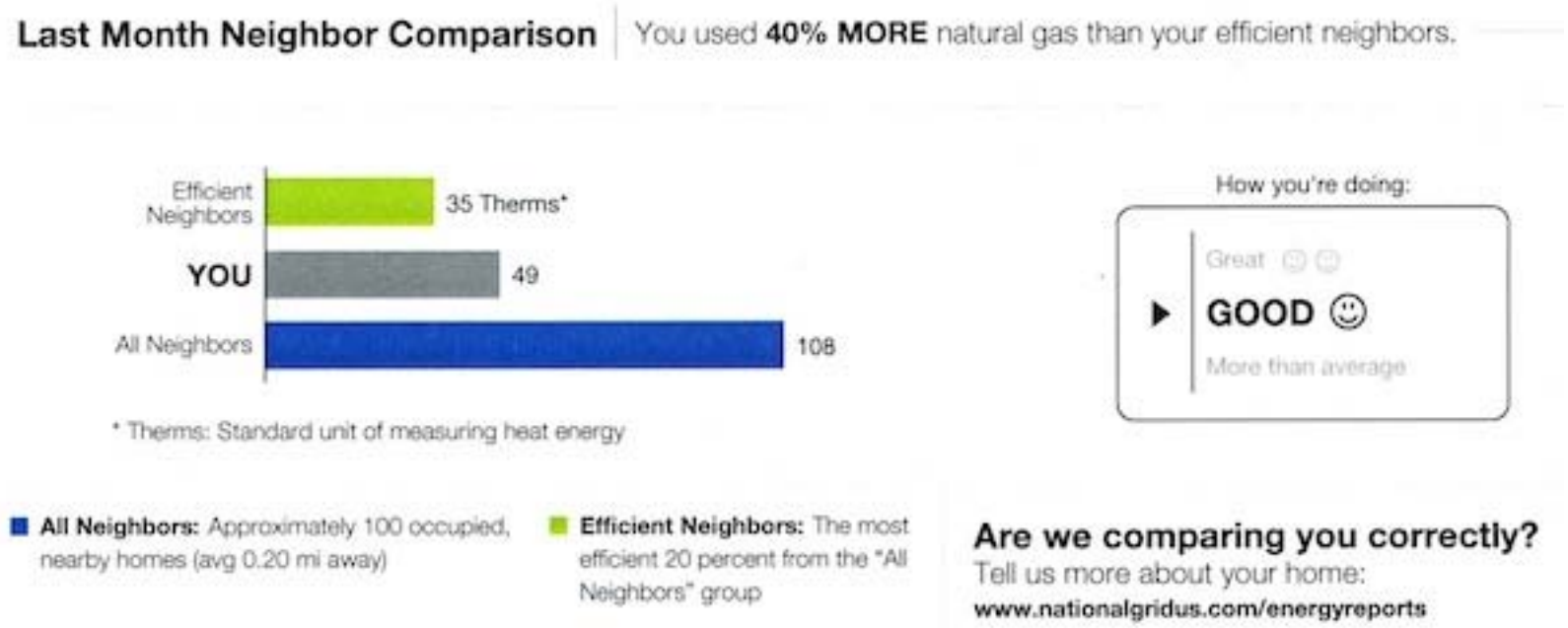
- Two data points: my building’s gas usage for first 11 months of 2011, and same period last year
- Factoid at right

Likes/dislikes

+ Qualitative comments!
+ Same period used for both
– Low data/ink ratio

National Grid, “Last Month Neighbor Comparison” exhibit

Peer comparison using two sample groups (cohorts).



Data

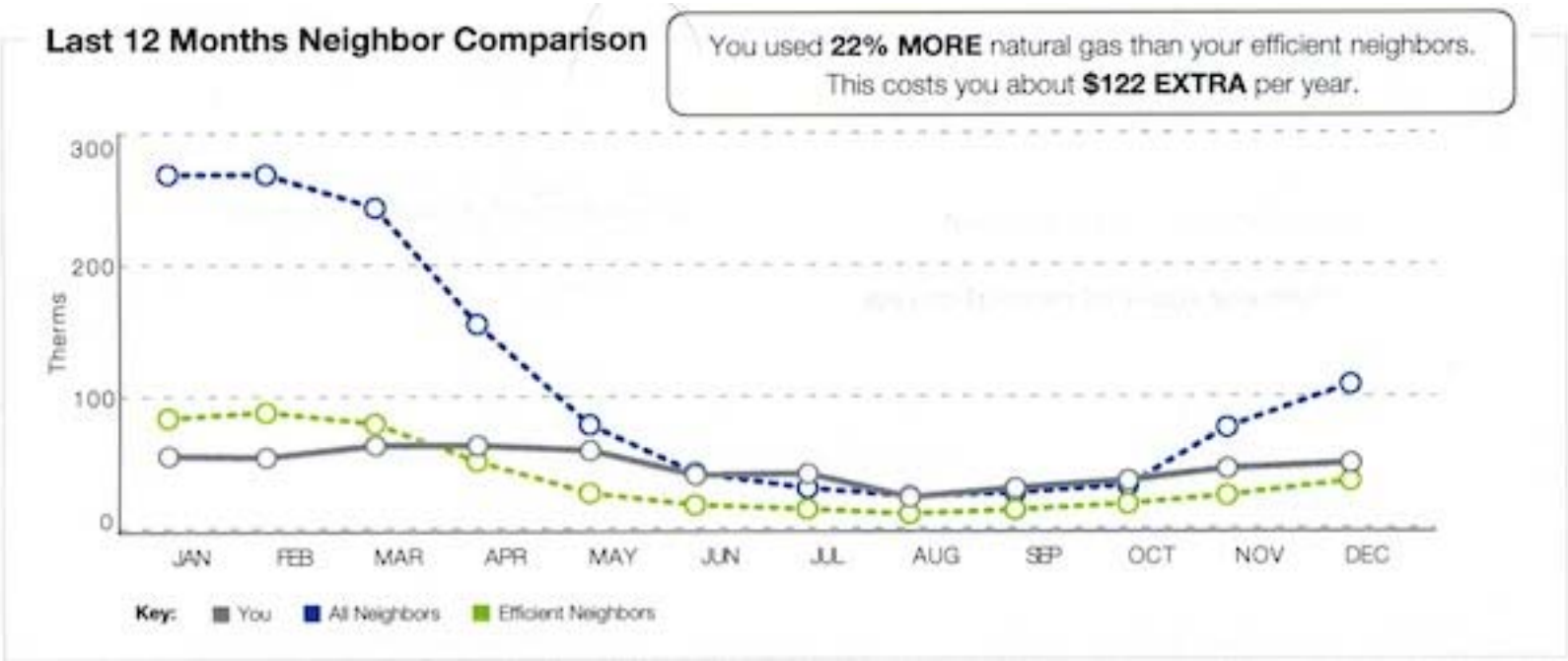
- Three data points: my building’s gas usage, all neighbors, and my “efficient neighbors”
- Headline at the right

Likes/dislikes

+ “Efficient neighbors” shorthand for top quintile
+ Clear explanations
+ What It Means

National Grid, “Last 12 Months Neighbor Comparison” exhibit

Time-series analysis with three data series, including one cohort.



Data

- Three data series: my building’s gas usage, all neighbors, and my “efficient neighbors”
- Headlines at the top

Likes/dislikes

+ Peer comparison
+ What It Means… headline has costs!
+ Time-series

Nstar: “Online Home Energy Home Audit,” summary page

A little chart-junky, but good use of narrative, key indicators; documentation of exogenous factors (weather).

Thank you for performing an online home audit!

The estimated energy use and cost differences for a home like yours is shown below:

Difference from Last Month

Usage Summary:
The January 2012 usage was about 36 kWh higher than the December 2011 period. **36 kWh**

Cost Summary:
The January 2012 costs were about $7 higher than the December 2011 period. **$7**

Weather Summary:
The average temperature for January 2012 was 5.7 degrees colder than December 2011. **5.7°F**

Weather Impact:
5.7°F lower cost about $7 and 36 kWh

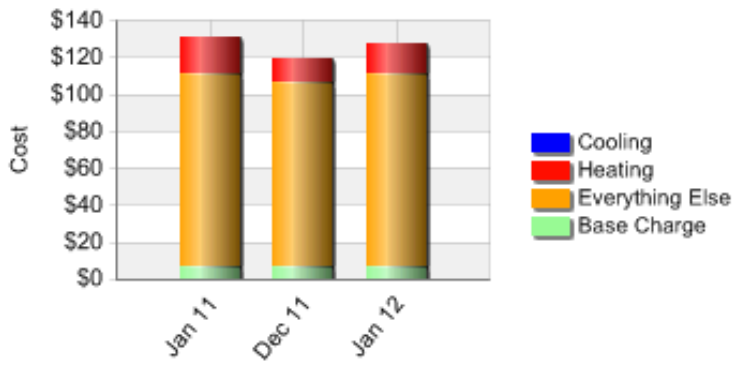
Difference from Last Year

Usage Summary:
The January 2012 usage was about 18 kWh lower than the January 2011 period. **18 kWh**

Cost Summary:
The January 2012 costs were about $4 lower than the January 2011 period. **$4**

Weather Summary:
The average temperature for January 2012 was 6.2 degrees warmer than January 2011. **6.2°F**

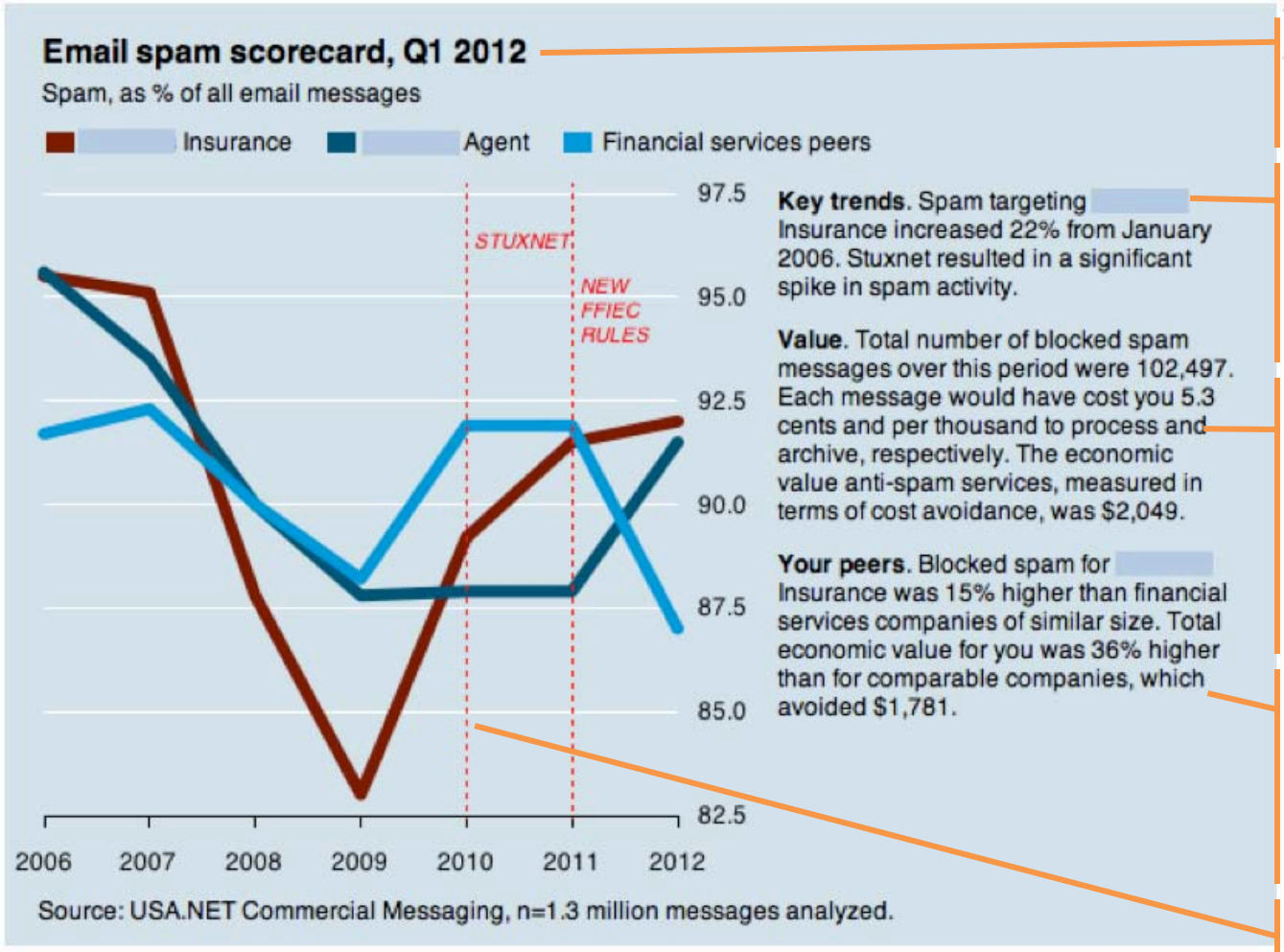
Weather Impact:
6.2°F higher saved about $4 and 18 kWh



	Jan 2011	Dec 2011	Jan 2012
Avg. Temp	27.8 F	39.8 F	34.0 F
Cost	$131	$120	$127
kWh	621	567	603
Days of Service	31	31	31
Avg. Daily kWh	20	18	19

Applying some utilities lessons to security

This is a mockup of a scorecard we are working on for a customer. The data are all fake.



Shamelessly aped graphic design from a leading ecomomics newspaper

PDF scorecards show quarterly trends. Online scorecards will show weeks, quarter, and custom ranges.

Automatically generated comments describe trends of interest, for example by calculating a percentage rise or fall of a data series.

Economic value can be determined by multiplying total count of something by a cost factor. For example, spam messages received x the foregone cost to process and archive that message.

If a peer group trend line was plotted, generated comments describe the trend relative to the peer group, and also the relative costs.

Annotations document significant “events” that help explain sudden spikes or drops.

Other metrics from real life: traffic safety

US Department of Transportation has lots of data we can use.

	1960	1993	Change
Rural interstate average speed (mph)	53.8	66.9	+24%

Traffic data: U.S. DOT/FHWA, Highway Statistics, annual issues, Table VS-1.
http://www.ibiblio.org/rdu/gov-stat/speed-tr.html

Cost of protections: http://www.nhtsa.gov/cars/rules/regrev/evaluate/pdf/809834Part1.pdf

Fatalities: US DOT, Lives Saved by the Federal Motor Vehicle Safety Standards and Other Vehicle Safety Technologies, 1960-20

GDP: World Bank

Analysis/life benefit modeling: ARJ

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* 2010 constant dollars

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Registered drivers, millions	87.2	176.6	+98%

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Fatalities, per billion passenger miles	48.0	21.8	-55%

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Safety cost, $billions*	-	9.1	
GDP benefit, $billions*	-	10.0	

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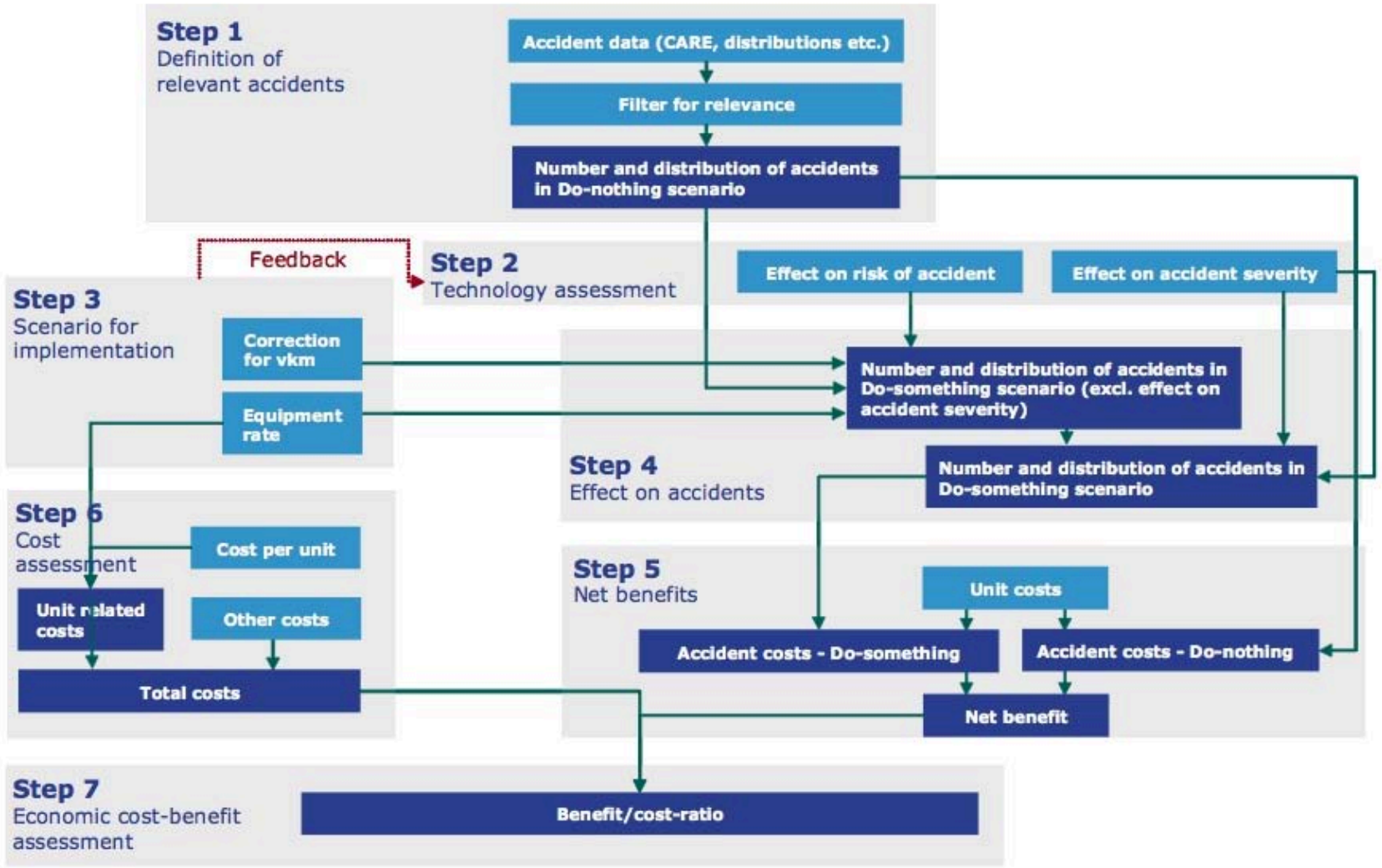
European Commission: modeling effectiveness of auto safety technologies

Figure 1 *Assessment framework*



European Commission Directorate General Energy and Transport, “Cost-benefit assessment and prioritisation of vehicle safety technologies”, 2006

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