Implementation Group

Cabinet Office

Trajectories and sample frames

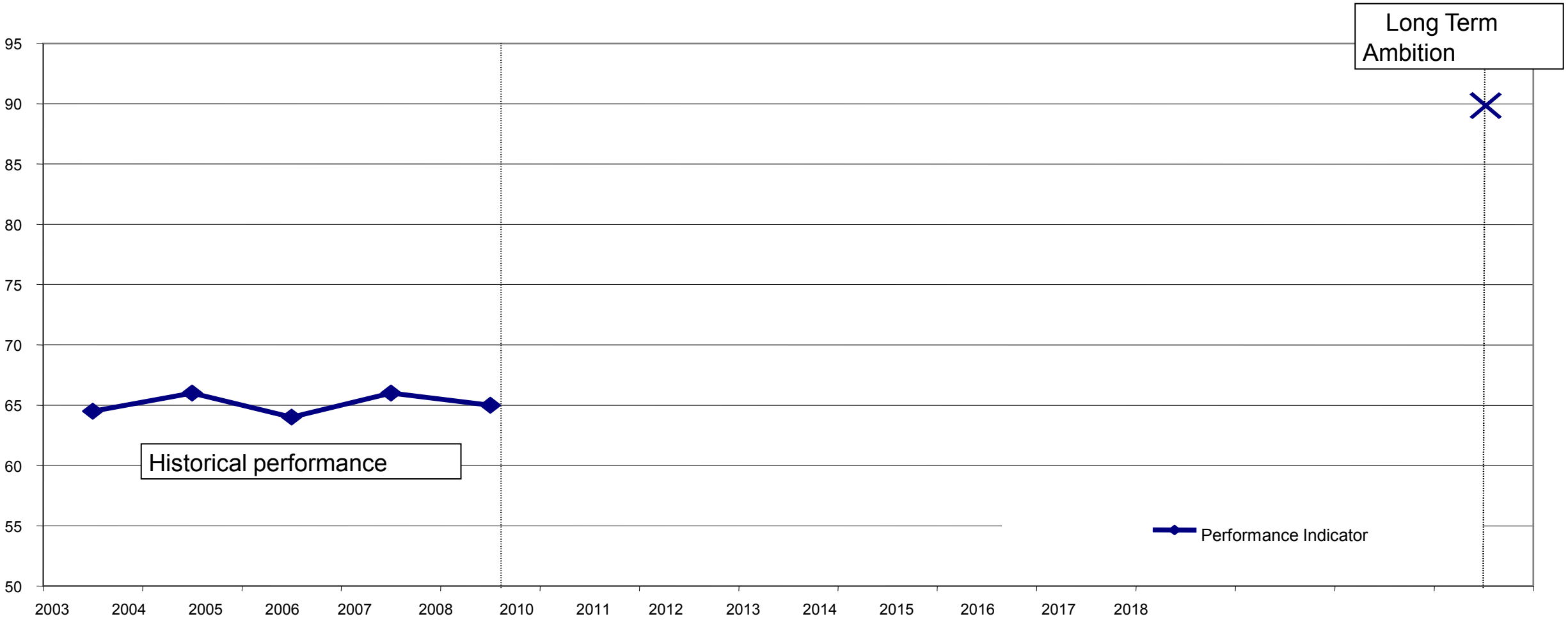
What is the difference between a forecast and a trajectory?

Forecast	estimates what will happen in the future based on externally determined factors in the 'real-world' and historical time series.
Trajectory	describes what needs to happen over time into the future to meet a government objective, normally based on assumptions that a (government) 'intervention' will change what would otherwise happen.

Other terms – eg projection, prediction, etc - tend to be used loosely and interchangeably, so given they are imprecise terms we should probably avoid using them

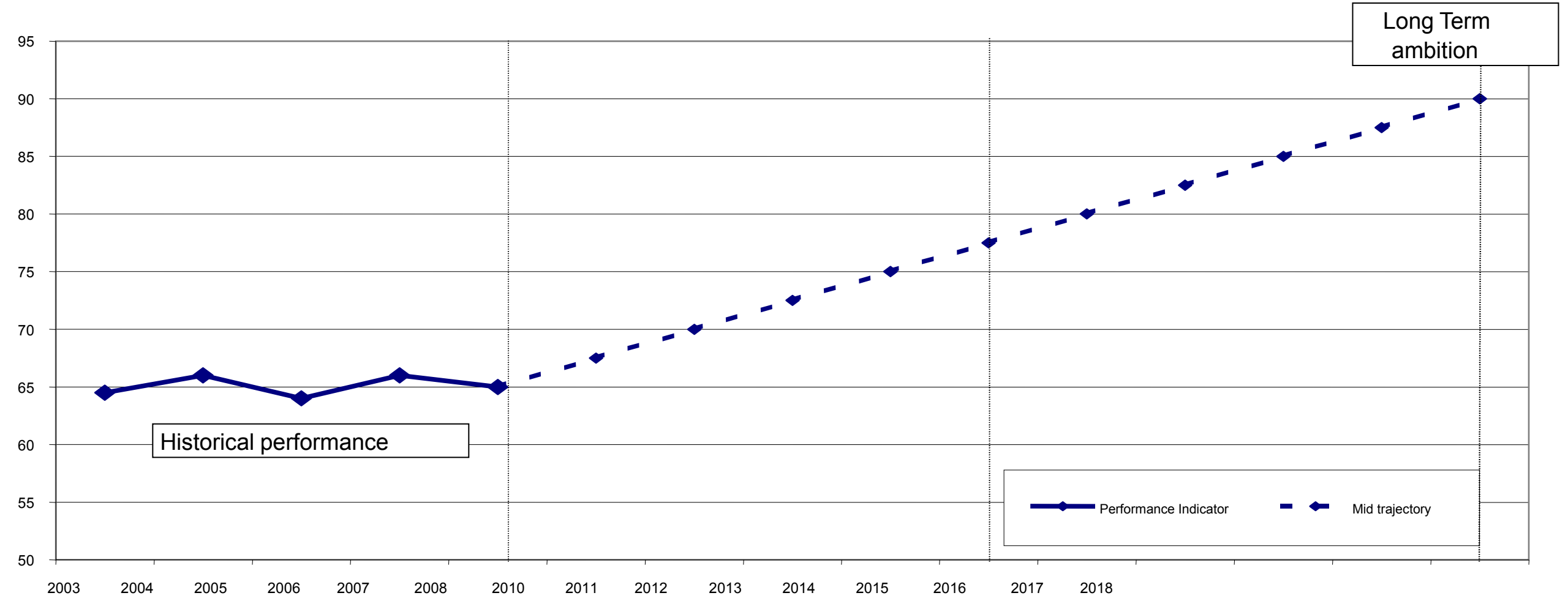
Trajectories explained

We have a performance indicator and an associated long-term ambition



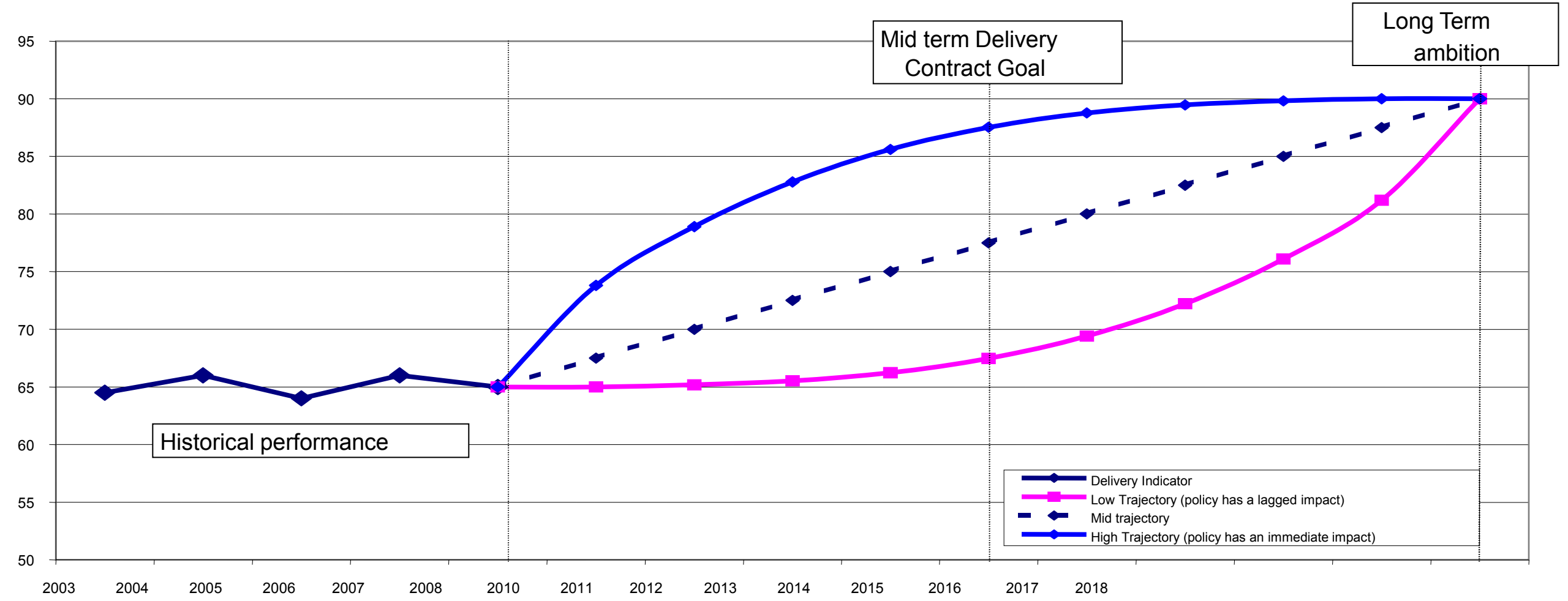
Trajectories explained

The simplest straight line trajectory



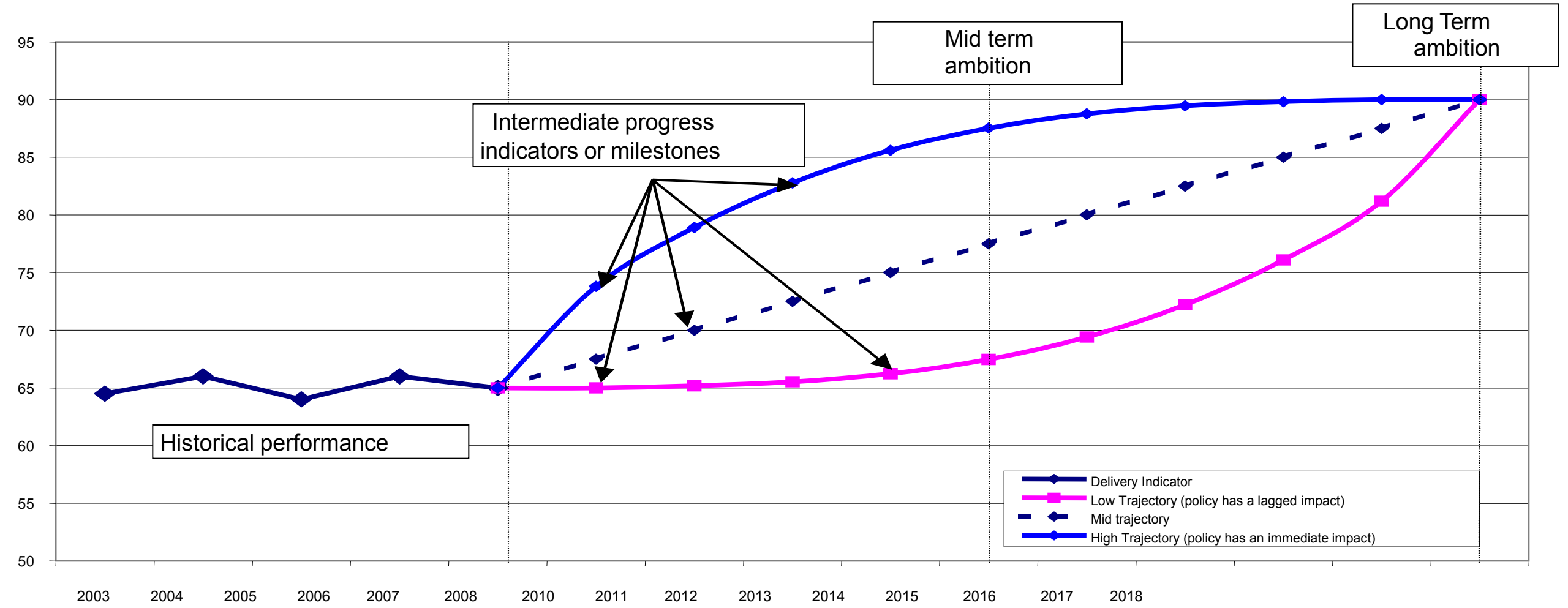
Trajectories explained

More realistic trajectories…..



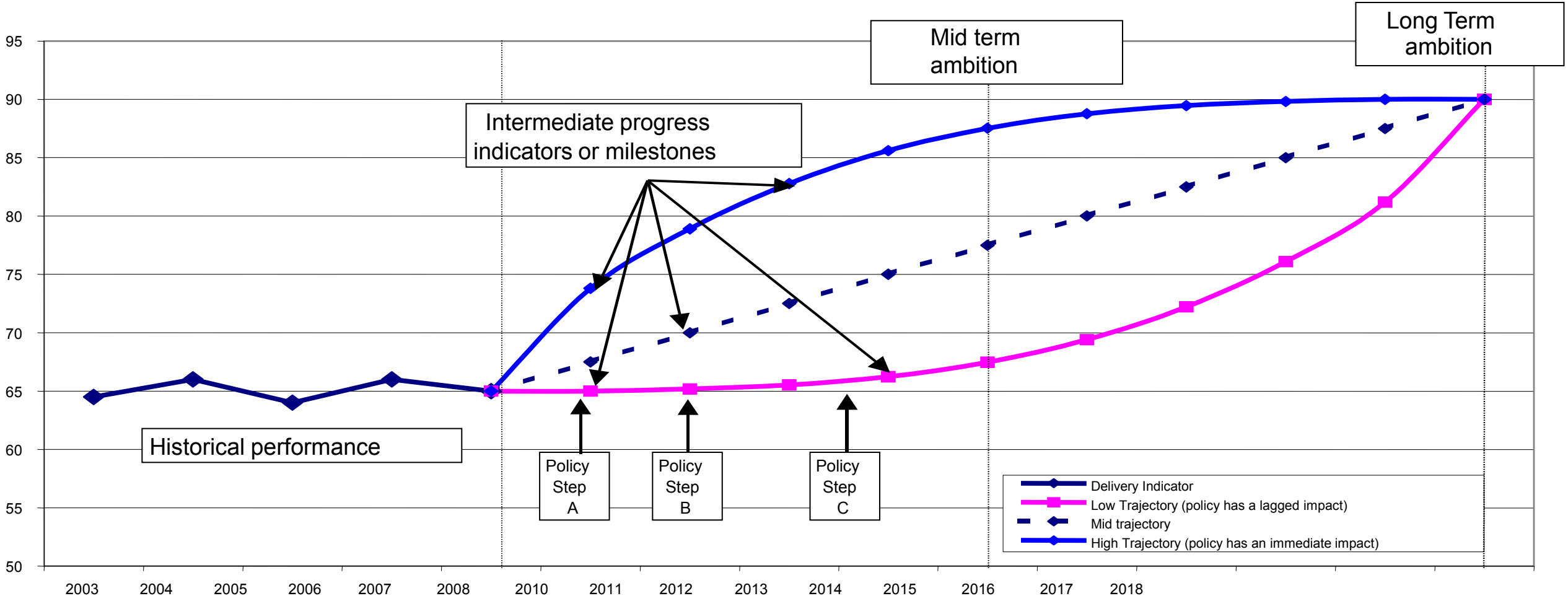
Trajectories explained

Include as many internal milestones as possible - be predictive



Trajectories explained

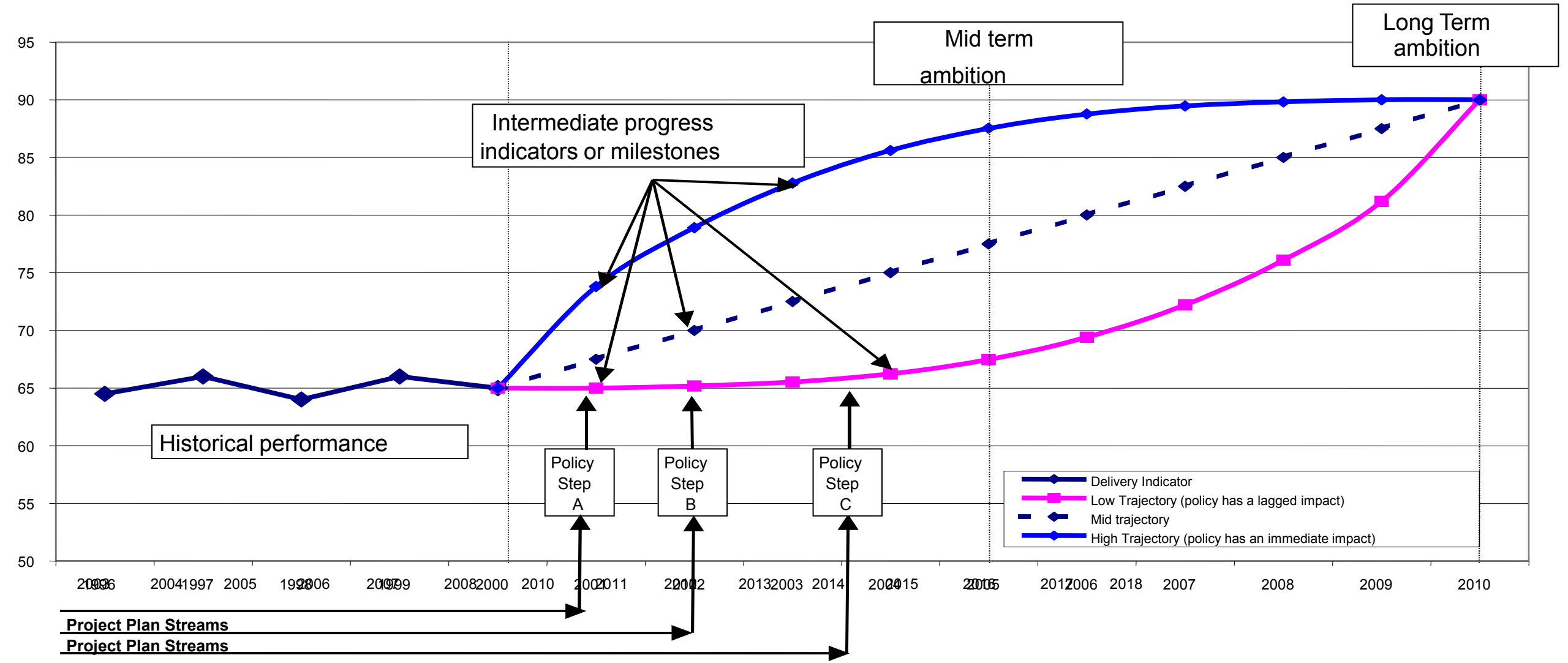
Understand the impact of initiatives both when they impact and by how much



Trajectories explained

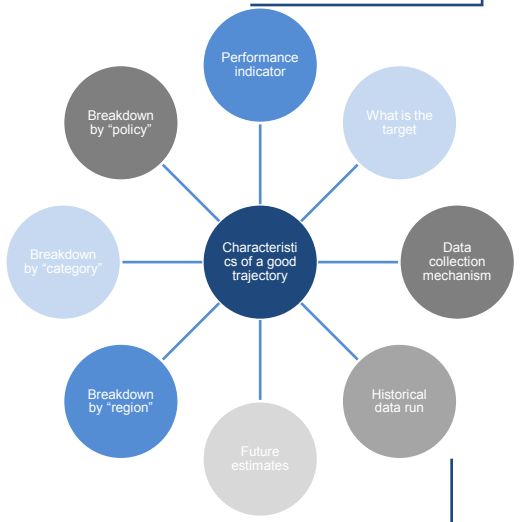
Tie into effective planning systems:

Planning → Process → Input → Outputs → Outcomes



Trajectories checklist

Trajectories checklist



What is it you're trying to improve?

- Well defined
- Easy to understand

What is success?

- Specific, Measurable, Achievable, Realistic & Timed
- When will it be known? (data lag)
- Agree standard
- Percentage vs. absolute numbers?
- Level of accuracy
- National average?
- Minimum performance

Data collection

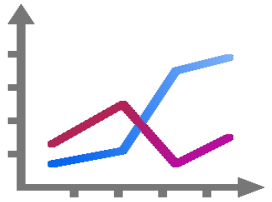
- Regular
- Robust
- Consistent
- Survey vs. census
- Independent
- Contextual data/ regional breakdown

Historical data run

- At least as long as projection period
- Seasonality?
- Previous peaks and troughs?
- "policy-off" performance

Trajectories checklist

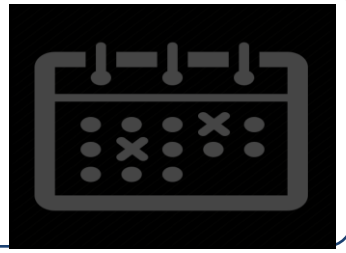
Breakdown by “policy”
- Which are they key policies?
- What are the low impact policies?
- When will individual policies impact?

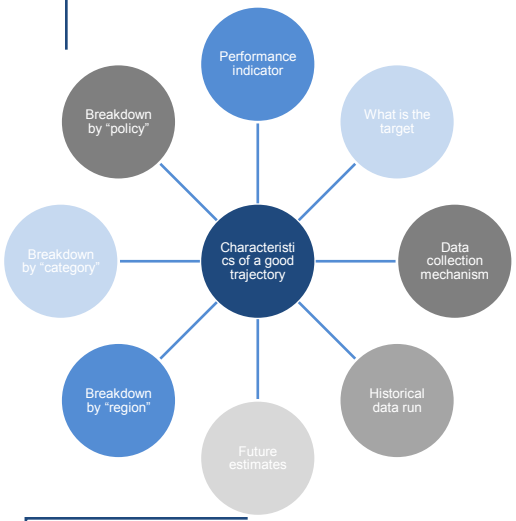


Breakdown by “category”
- Exams results by gender or free school meals
- Different categories of violent crime
- Time delays by cause

Breakdown by “region”
- Could be Council, CCG etc.
- Range of performance
- Characteristics of good (or poor) performance

Future estimates
- Intermediate points (as many as possible)
- Impact of initiatives
- When will individual policies impact?
- When will you know if policy x is working?



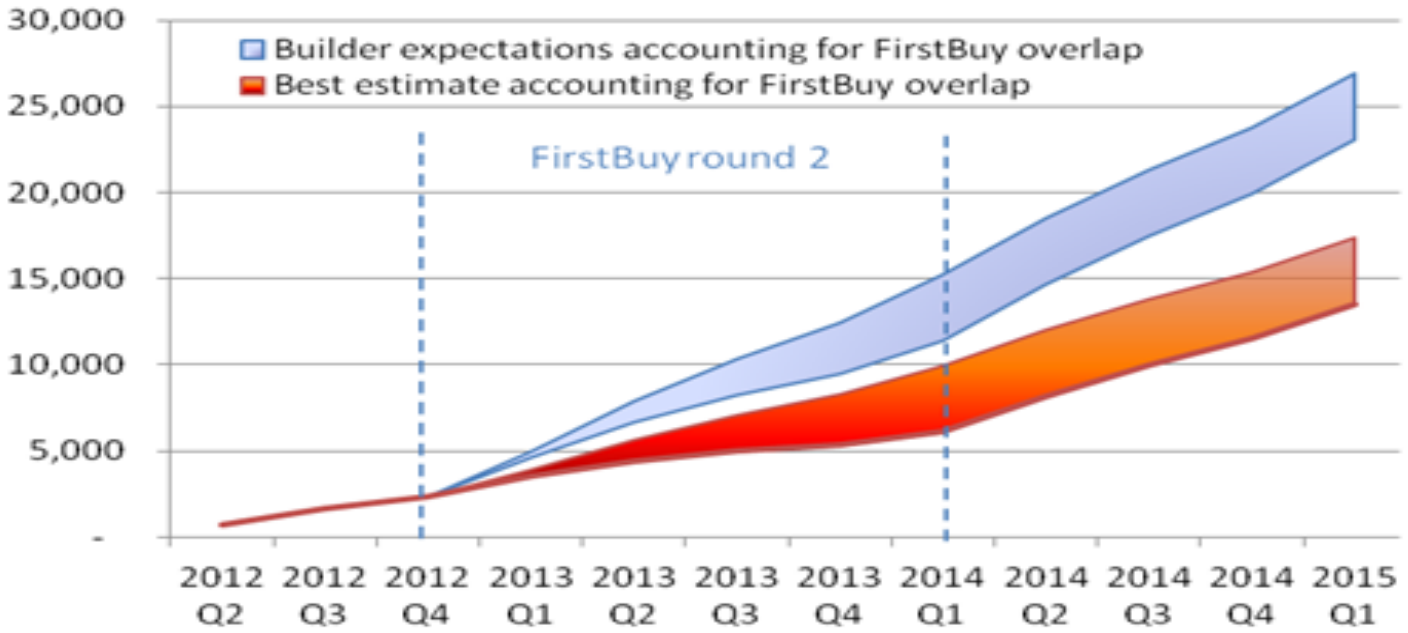


Group mini exercise

What are the strengths of the example trajectories?

How might they be improved or done differently?

Trajectory example: Cumulative NewBuy sales to March 2015

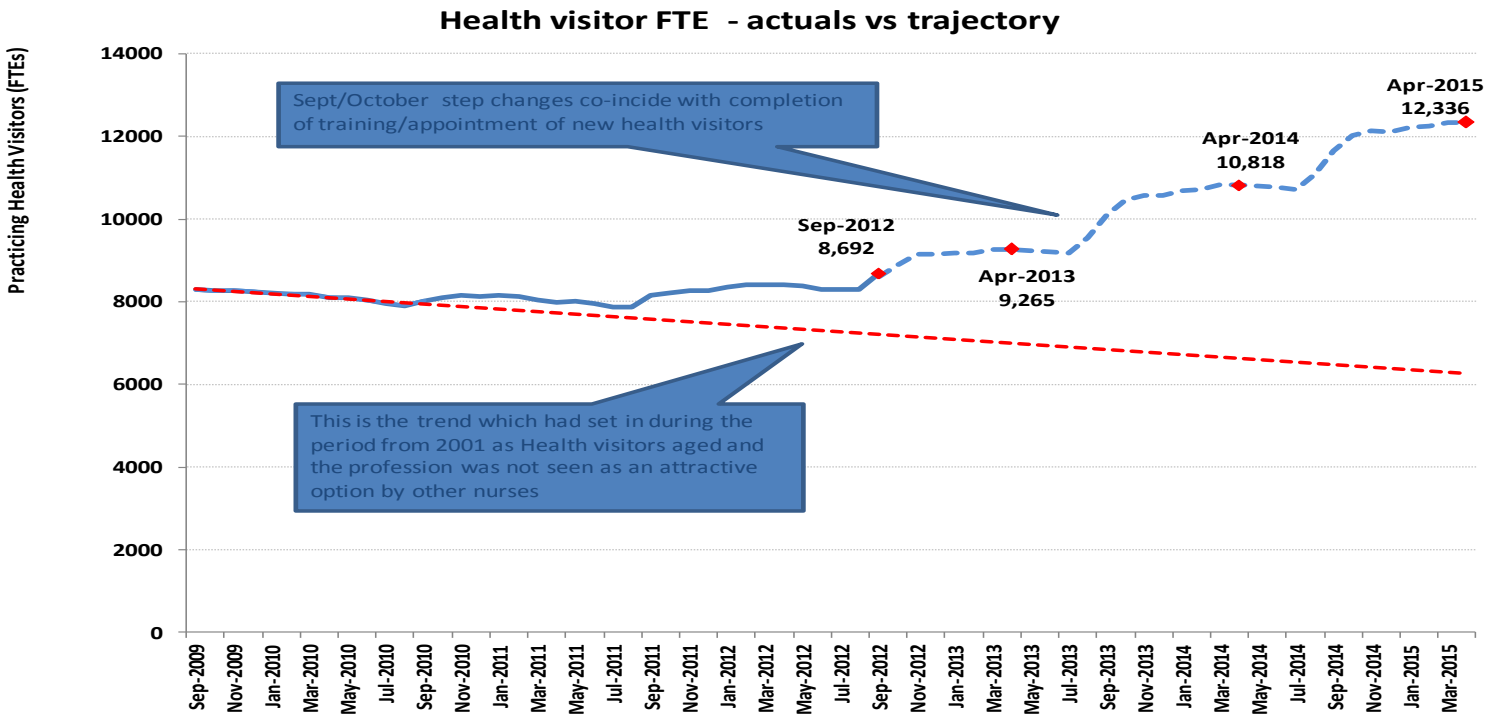


- Builders were asked at the start of the scheme to estimate how many units they would sell through NewBuy over 3 years.
- Adjustments made using data on past reservations (where new build homes are reserved for purchase), FirstBuy allocations, and market share.

- Blue zone. We start with a straight line to builder expectations. We then adjust for seasonality and account for the overlap with FirstBuy (illustrated by 10- 35%), which generates the range.
- Red zone: we can calculate that builders expect to sell c. 15% of their output via NewBuy, yet progress has been slow. We now lower this to 10% of output and make the same adjustments for seasonality/ FirstBuy overlap.

Trajectory example: Number of FTE Health Visitors in post

(goal = increase by 50% from May 2010 to April 2015)

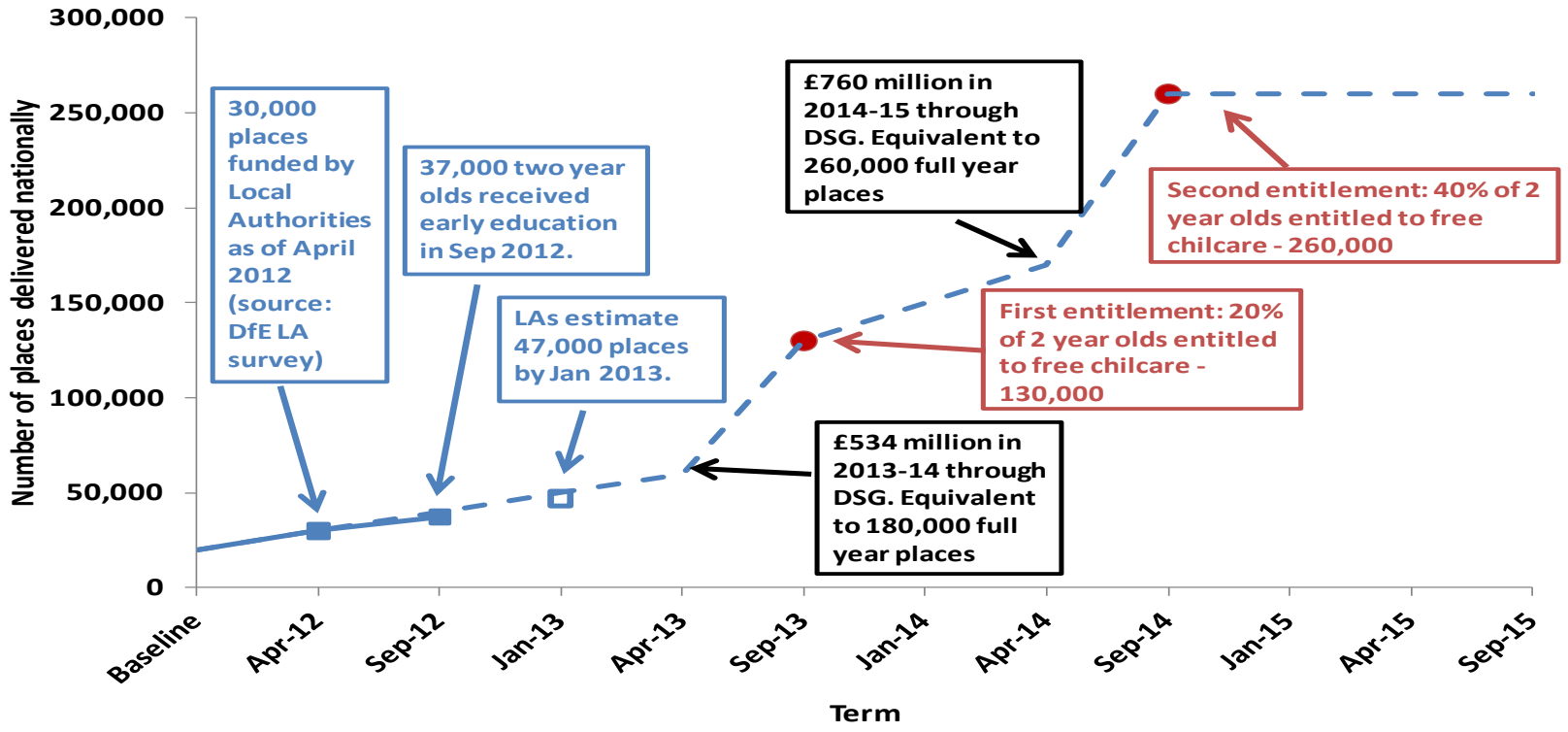


- SHA 3 year envelopes allocated by DH using pre-existing resource allocation formula .
- Delivery profiling across 2012-2015 by SHAs, QA'd by DH. Delivery profiling includes commissioning for training places (health visitor training takes 1 year and students must already be qualified nurses or midwives)
- Original source of ambition unclear.....

- Break down by Strategic Health Authority area examining age structure, training requirements and growth profile over 3 years

Trajectory example: Number of 2-year old children accessing funded places

20% eligible from Sept 2013 (130k), 40% (bottom 2 income quintiles) eligible from Sept 2014 (260k)



- Trajectory generated by DfE based on *projected* spend

- Local Authorities receive funding in April.
- In each year, DfE makes assumptions as to how much of this funding they will use to deliver extra funded places.
- Funding is calculated on the basis of an assumed “unit cost”, so there should be a direct relationship between funding and places delivered.

What do we need sampling frames/ samples for?

A sampling frame is the source from which a sample is drawn representative – it represents the whole population

It can be very costly and time intensive to interview everyone, hence why a sample is usually drawn (the exception is the Census)

In an ideal world a ‘random’ sample is desirable to ensure the findings are representative of the whole population

But even setting up a random sample is often not possible within our time constraints

For fieldwork **a purposive sample** can help to gain insights quickly

A purposive sample is deliberately designed to capture information on the subject area of interest

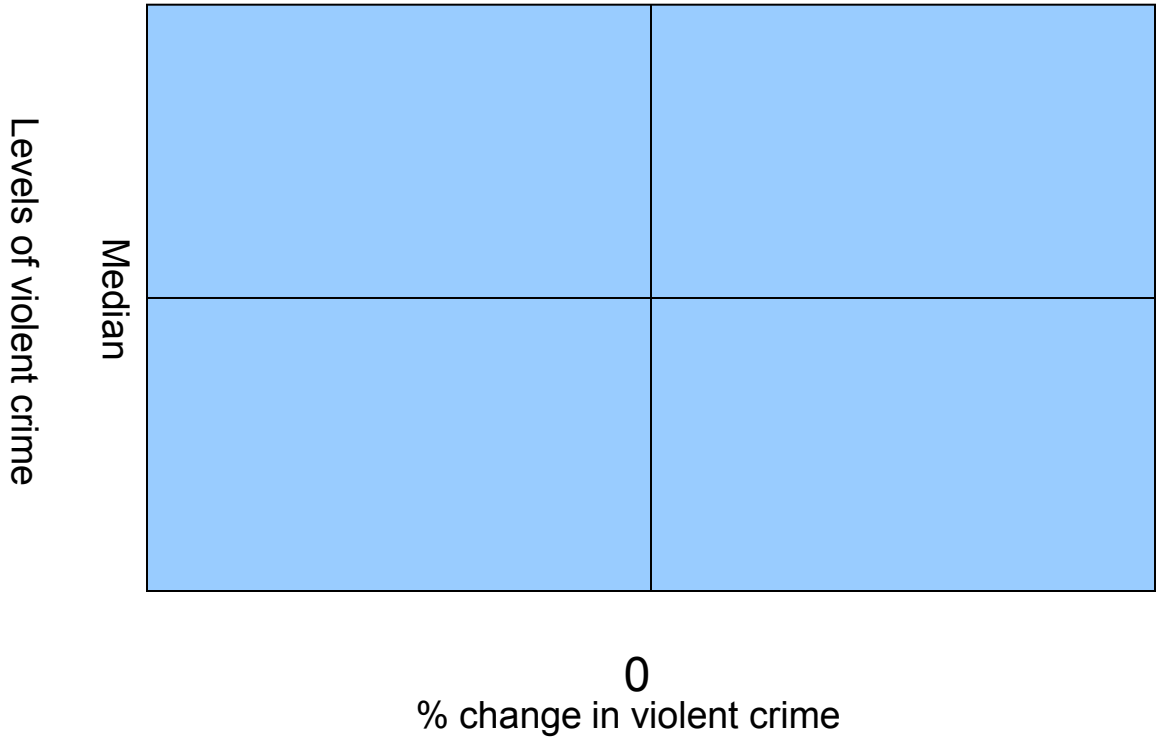
It assumes that by focusing on the ‘extreme’ deviants of the subject area, you can gain an understanding of more regular patterns of behaviour

An example of purposive sampling – violent crime

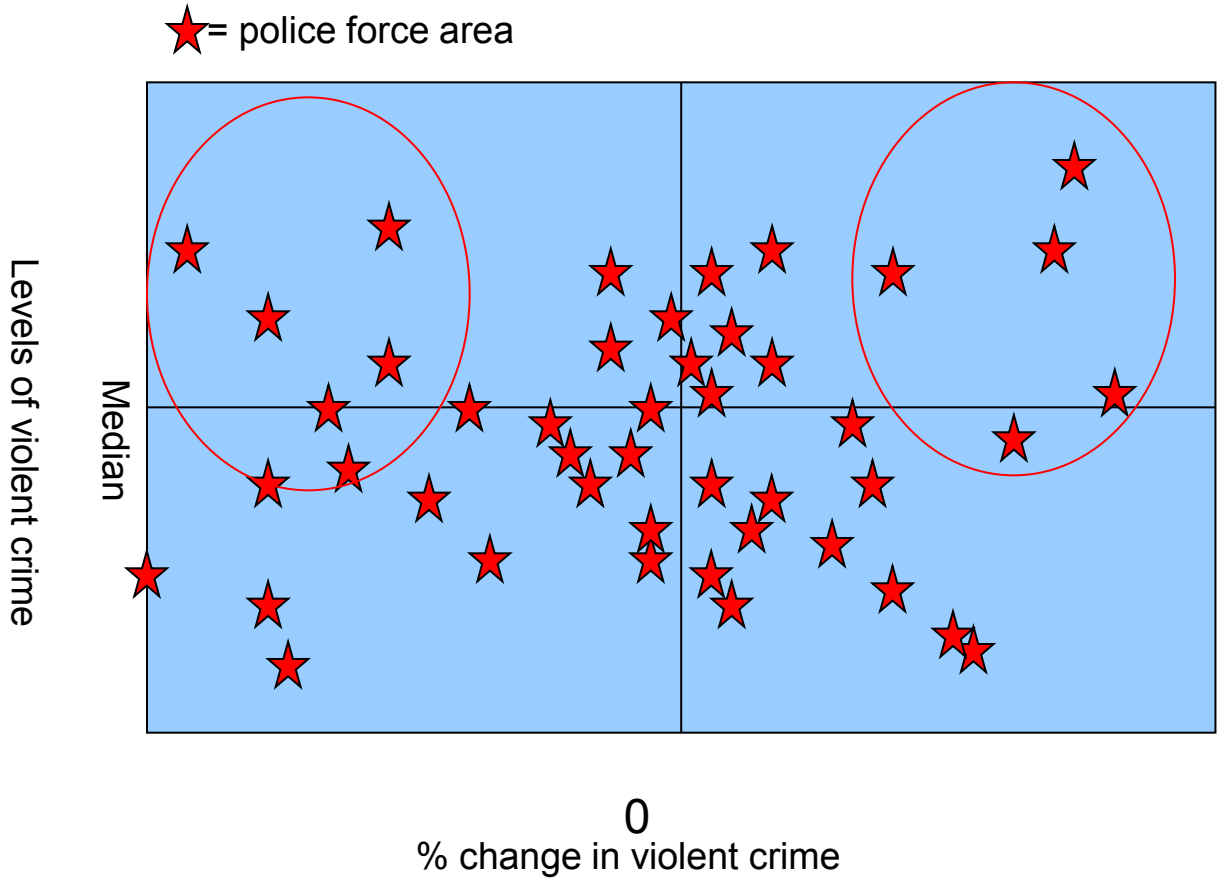
Consider Violent Crime as an example – you want to understand quickly what's driving changes in violent crime across the country and what best practice might look like .

By plotting the levels of violent crime against % change in violent crime you can start to see the extreme 'deviants' of police force areas

You can also consider splitting the data into quartiles – and considering how you want to select your fieldwork areas, e.g. do you want to visit all quadrants, or just specific extreme deviants. Some of this may depend on how many areas you have time to visit.



An example of purposive sampling – violent crime



Then consider geographic spread – the most common variables to consider (and to add to the dataset) are geographic region and urban/ rural classifications. General guides: London is usually unique, it is always useful to get a contrast with the north, DEFRA's classification can help you identify extreme urban / rural areas.

This will help you come up with your actual list of areas you will visit/ sample.