



FOLKETINGET
RIGSREVISIONEN

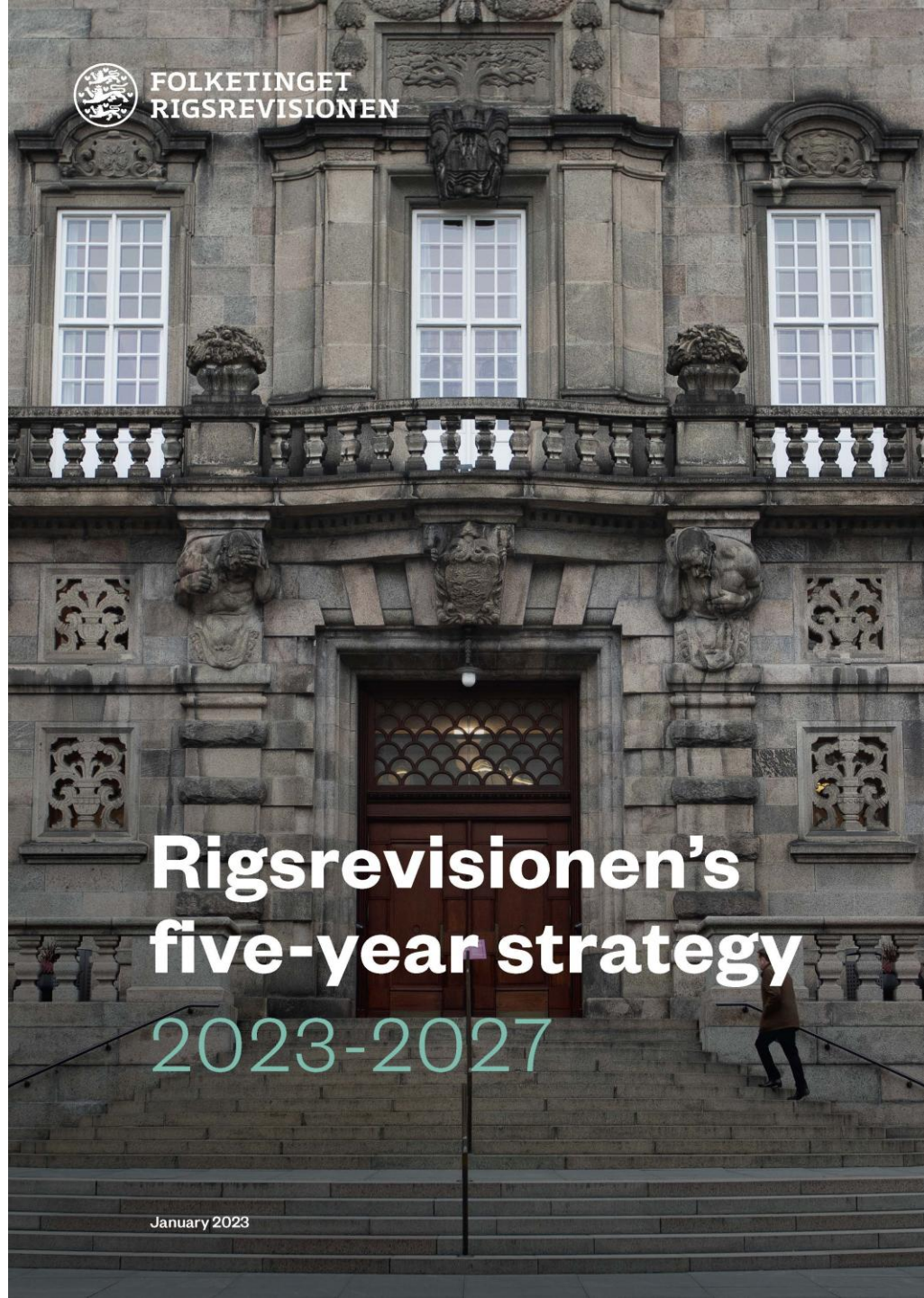
Time and Budget Performance in Government Construction and Infrastructure Projects

Mikala Thøger, Rigsrevisionen – Danish National Audit Office

*“It isn't as bad as you think –
as long as you don't need it on time, and
you don't rock the boat.”*

What is Rigsrevisionen?

- Denmark's supreme audit institution – part of the parliamentary system
- Examines whether government funds are used effectively and as intended by Parliament
- Reports to Parliament's Public Accounts Committee
- Two core tasks: the annual audit of the government accounts and **performance studies**



Rigsrevisionen's five-year strategy 2023-2027

January 2023

From single projects to the full picture

What we normally audit:

Individual projects that are off track on time, budget or quality.

Purpose: to assess whether the ministries' construction and infrastructure projects are implemented as originally planned. The study answers two questions:

- Were the projects completed on time?
- Were the projects completed within the original budget?

Why it matters



Benefits are realised later than planned



Dependent projects may also be delayed



Existing problems persist longer than expected



Less funding may be available for other projects



Project population



120 projects due for completion 2018–2022



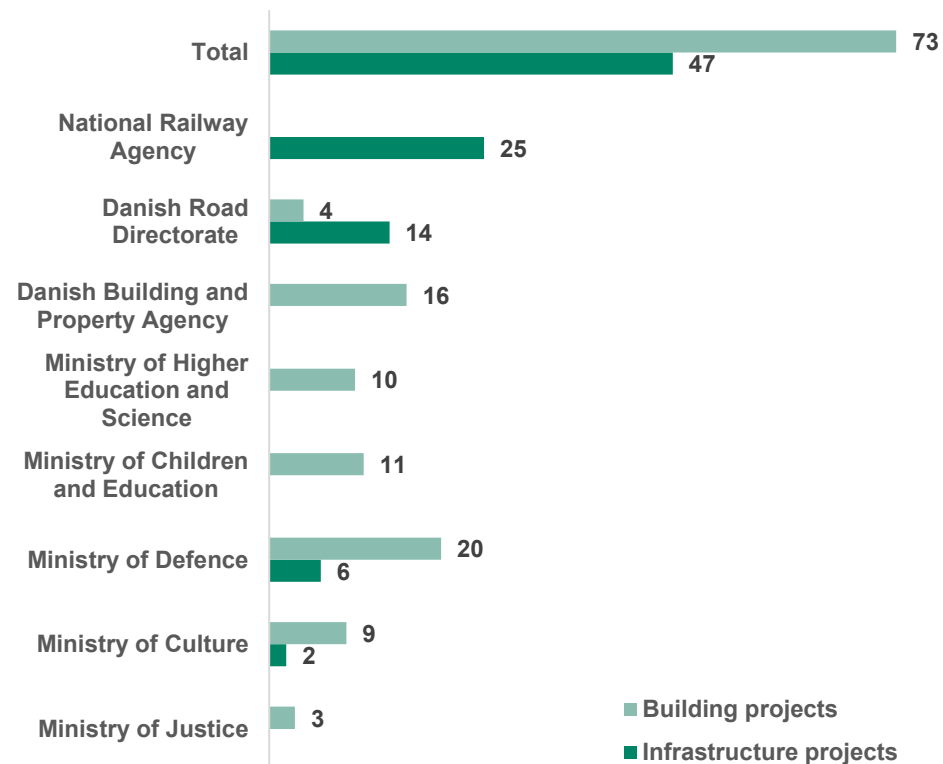
6 ministerial areas



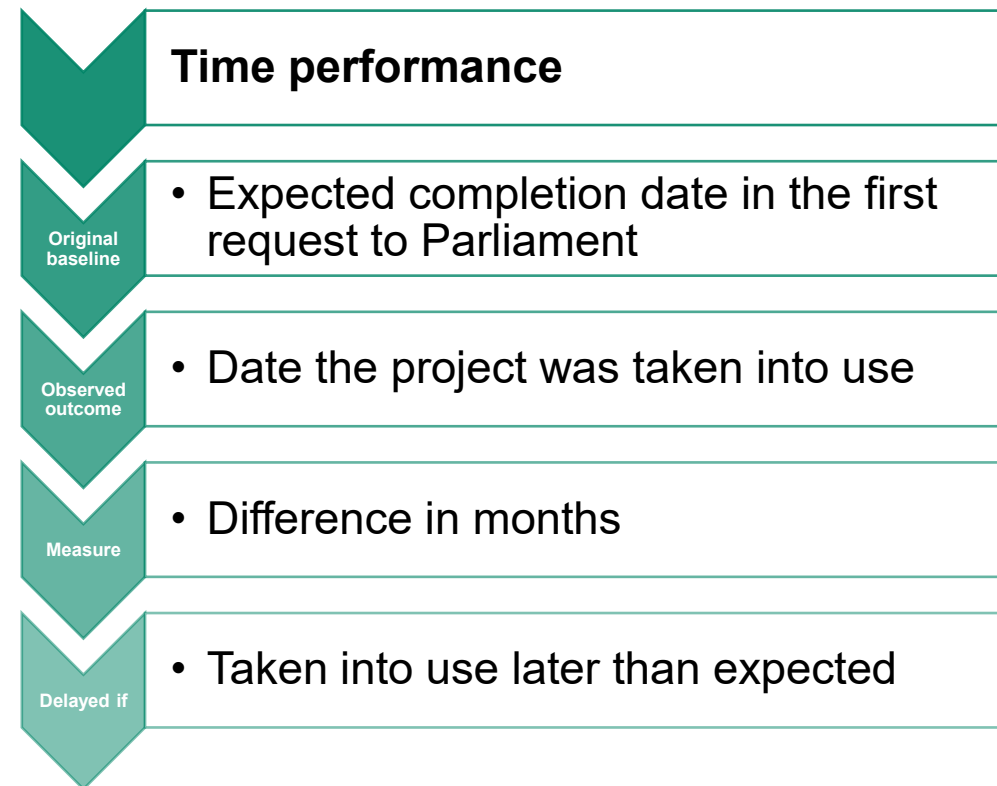
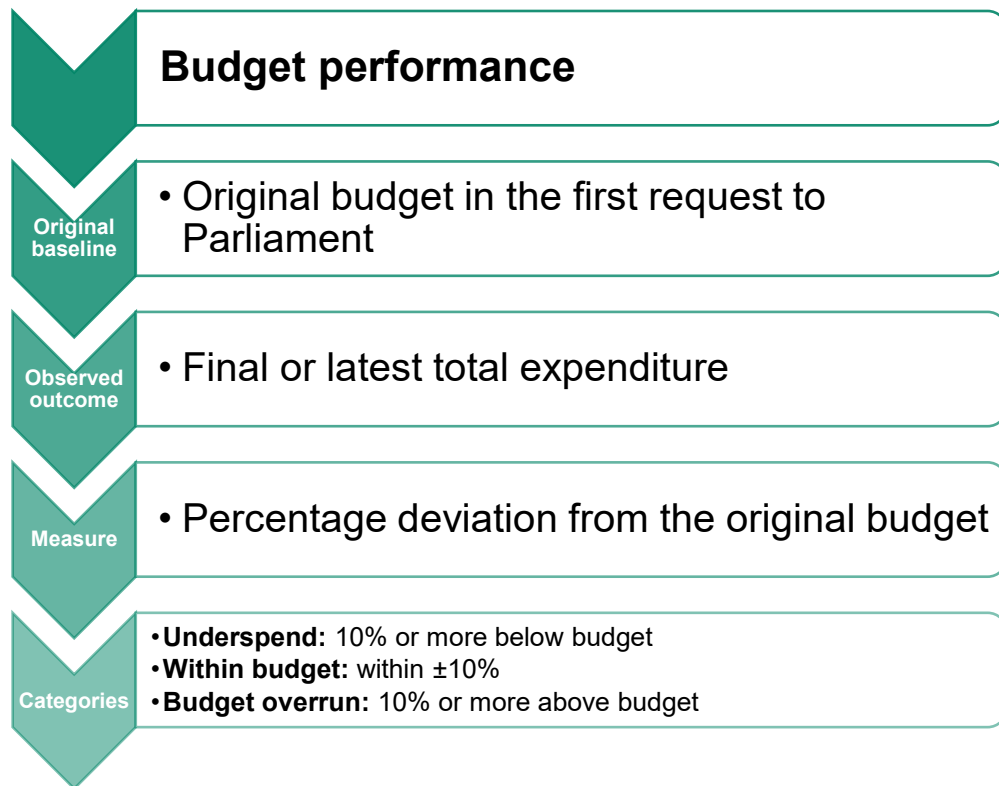
€12.2bn in original budgets (2023 prices)



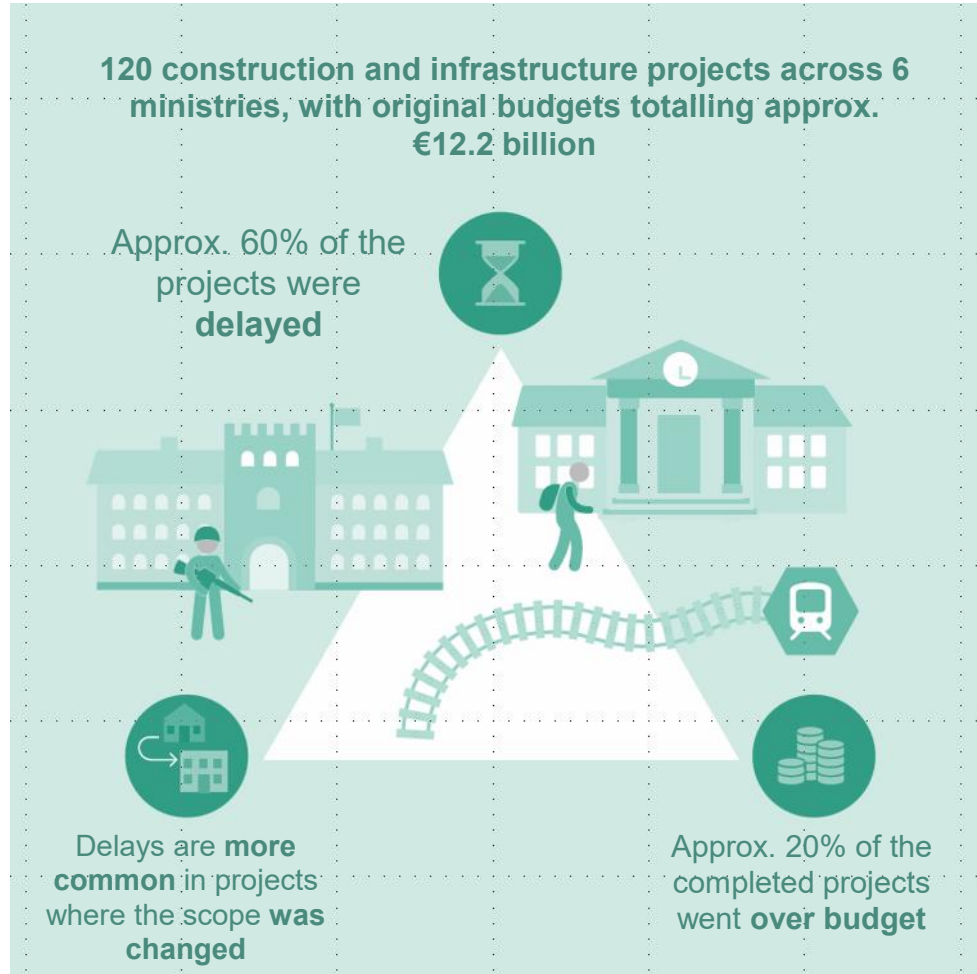
101 projects completed by September 2024



A simple design



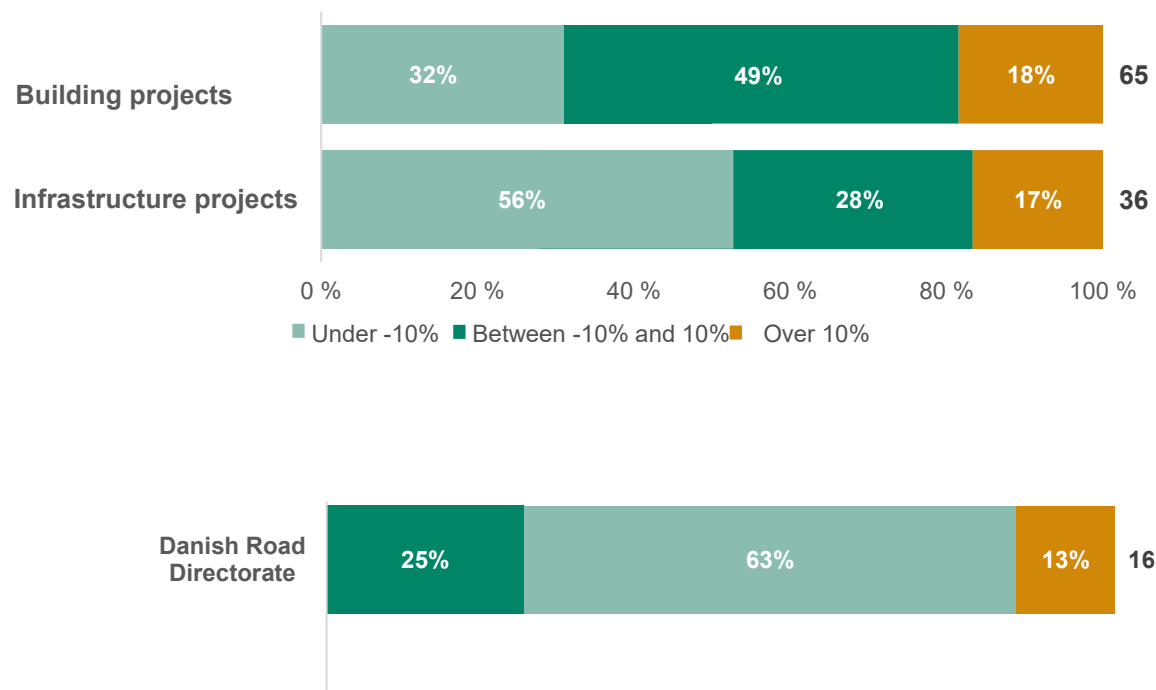
Main findings



- **Main conclusion: around 60% of the projects were not completed as originally planned.**
- As a result, Parliament approves projects on a basis that, in most cases – particularly regarding time – does not hold.

Budget performance

Budget outcome by project type – 101 completed projects



About 20% of the completed projects went over budget.

About 40% came in more than 10% under budget.

Underspends ranged from 10.1% to 55%.

Underspensing was most common in infrastructure projects.

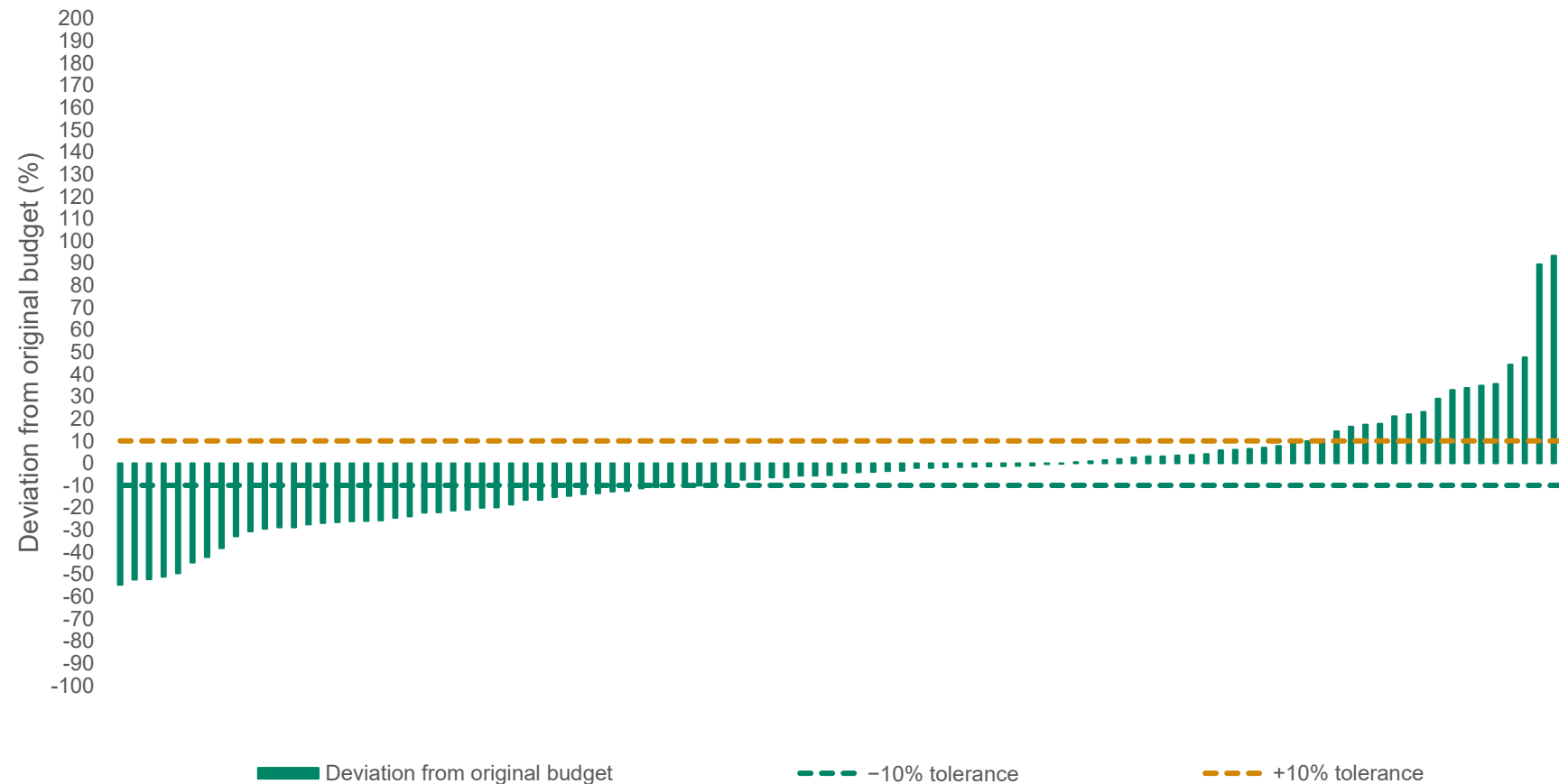
Completed projects ranked by budget deviation

+196%

Niels Bohr
Building – more
than 75% of the
total overrun

-55%

Nyborg Castle
restoration – the
largest
underspend in
percentage terms



Time performance

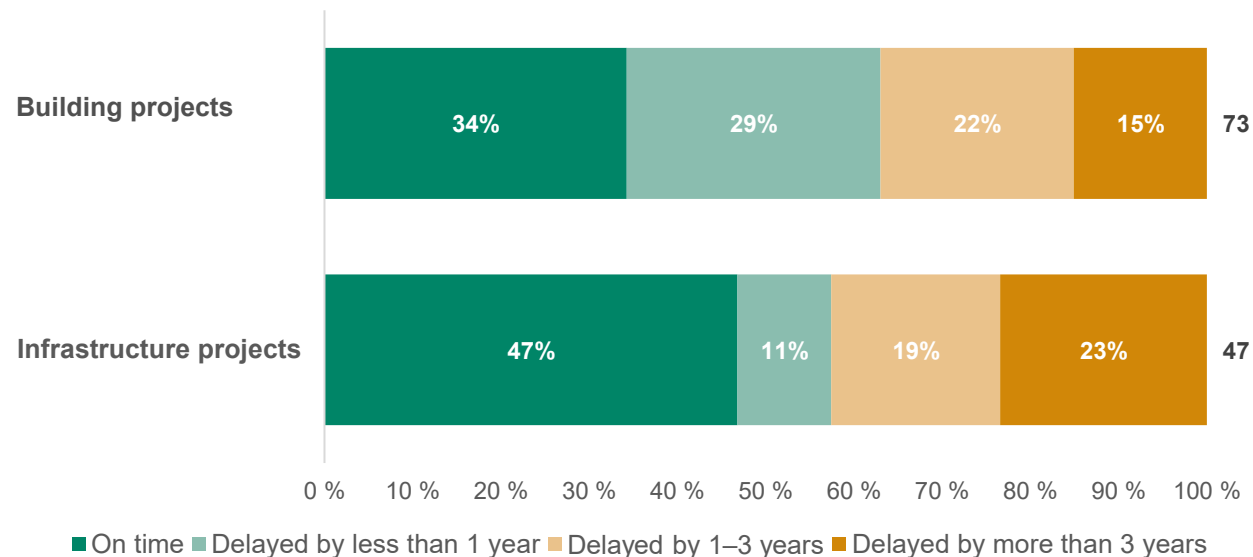
About 60% of the projects were not completed on time.

The average delay across all delayed projects was approx. 2½ years.

About 20% of the projects were delayed by more than three years.

Building projects were delayed more often; infrastructure projects were delayed for longer.

Time performance by project type – 120 projects



Projects ranked by delay

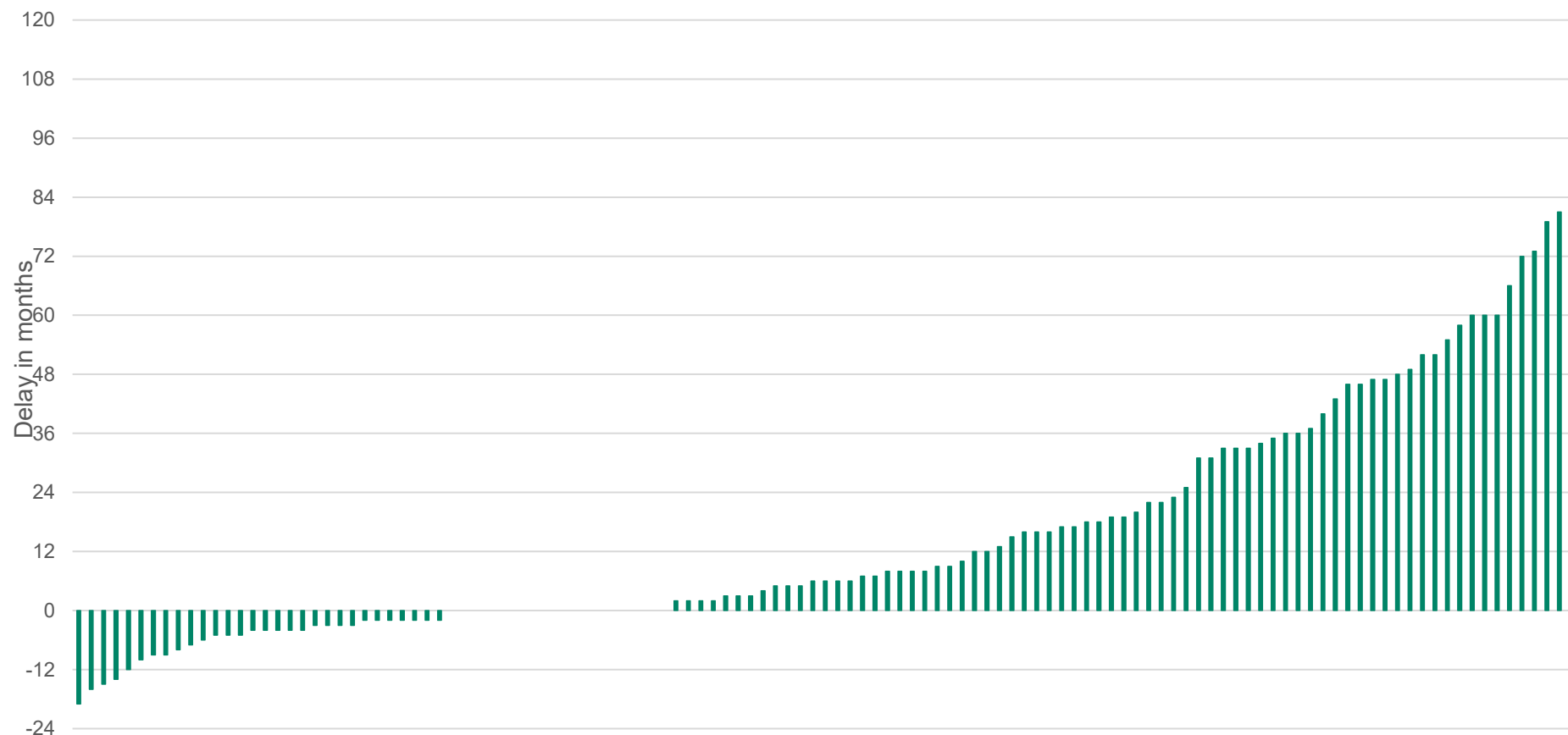
Deviation from expected completion date in months – 120 projects

10 years

The Signalling
Programme –
ten years late
and still not in
full use

30 projects

Taken into use
ahead of the
expected date



Budget and time are connected

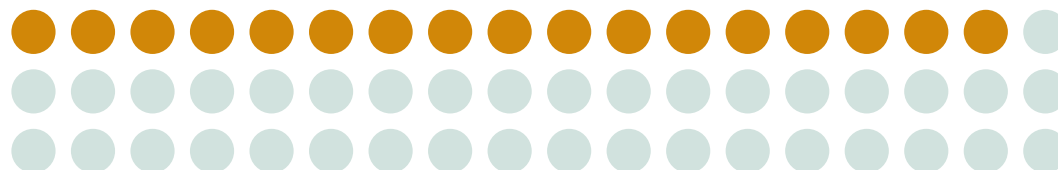
17 of 18

projects with a budget overrun were also delayed



17 of 54

completed projects that were delayed also went over budget



● Delayed and over budget – the same 17 projects in both

Overruns almost always come with delays – but most delays come without overruns.

One explanation: time is used as the adjustment variable – the schedule gives way to protect the budget.

Scope changes and delays

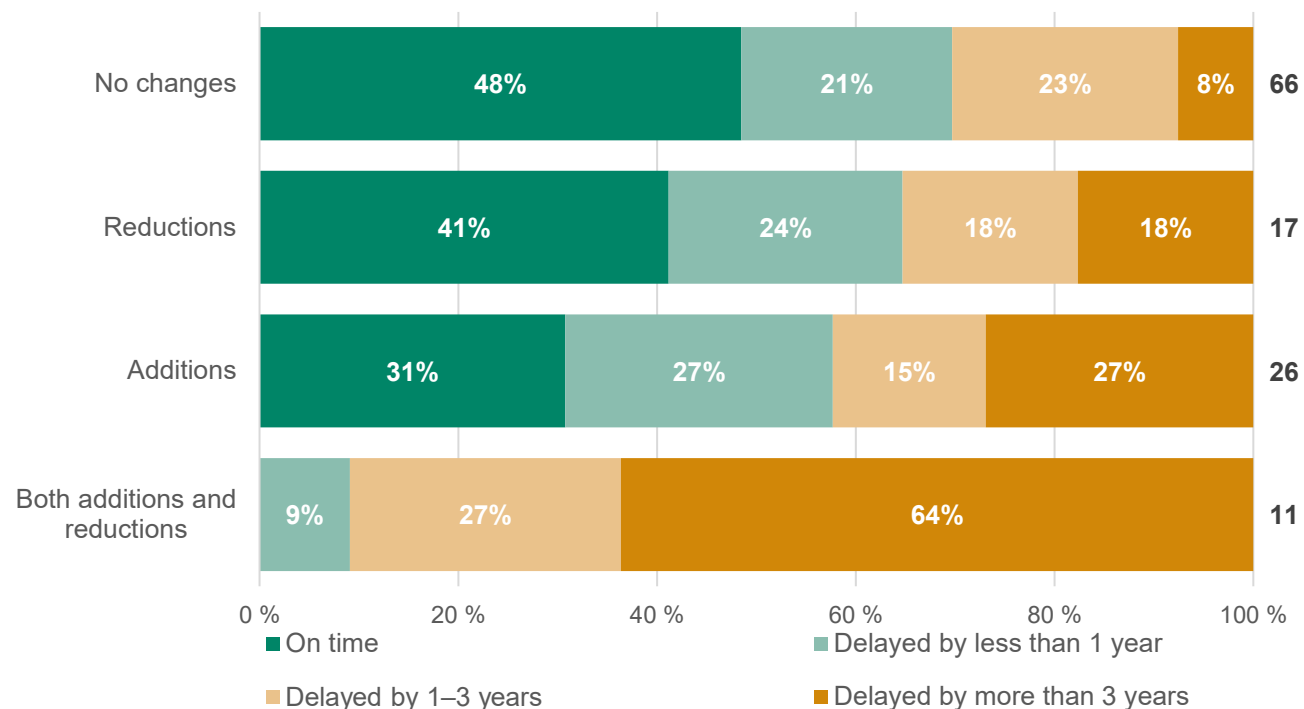
Projects with scope changes were delayed more often – and for longer.

Changes stem from new requirements and political decisions



Example: a prison expansion went from 50 → 100 → 50 cells across three political agreements. Delay: 3½ years.

Time performance by scope change – 120 projects



Why do projects get delayed?

The audit did **not** investigate the causes of delay in individual projects.

However, the ministries pointed to several recurring challenges:



Early estimates

Projects may be presented for approval before there is a sufficiently mature basis for a realistic schedule.



Political decisions

Projects may be postponed, changed or reprioritised.



Procurement and market conditions

High tender prices and shortages of labour or materials may affect timing.



Approvals

Building permits and environmental and security approvals may cause delays.



Trade-off between time and cost

A ministry may postpone a tender rather than accept unexpectedly high prices.

What happened next

Parliament
Recommendation endorsed by the
Public Accounts Committee

Research
Our data is now publish and free to
use in further research.

You can find it here:
www.rigsrevisionen.dk

Banedanmark (Transportministeriet)

Projekt navn (ID-nr.)	Bygge-/ anlægsprojekt	Pris- niveau	Økonomisk ramme (mio. kr.)	Forbrug (mio. kr.)	Afvigelse fra forventet ibrugtagning	Ændringer
Brofornyelse København-Høje Taastrup (BANE-3)	Anlæg	2023	72,9	53,2	÷5 måneder	Ingen ændringer
Elektrificering Køge Nord-Næstved (BANE-6)	Anlæg	2020	661,6	623,7	52 måneder	Tilføjelser
FTN Tracé Skjern-Holstebro (BANE-9) ¹⁾	Anlæg	2020	71,6 ²⁾	-	40 måneder ³⁾	Reduceringer
Favrholm Station (BANE-10)	Anlæg	2017	62,7 ²⁾	73,6	12 måneder	Ingen ændringer
Fornyelse af perroner ved Slagelse St. (BANE-11)	Anlæg	2023	64,6	52,6	18 måneder	Ingen ændringer
Hastighedsopgradering Aarhus-Langå (BANE-15)	Anlæg	2018	593,7 ²⁾	-	60 måneder ³⁾	Reduceringer
Kapacitetsudvidelse Aalborg-Hjørring (BANE-17)	Anlæg	2017	95,0 ²⁾	-	46 måneder ³⁾	Tilføjelser
Niveaufri udfletning Ny Ellebjerg (BANE-21)	Anlæg	2016	367,8 ²⁾	488,8	23 måneder	Tilføjelser
Ny bane til Aalborg Lufthavn (BANE-22)	Anlæg	2017	284,8	-	58 måneder ³⁾	Tilføjelser
Hastighedsopgradering Hobro-Aalborg (BANE-24)	Anlæg	2023	436,6	-	46 måneder ³⁾	Tilføjelser
Signalprogrammet (BANE-25)	Anlæg	2011	23.128,1 ²⁾	-	120 måneder ³⁾	Både tilføjelser og reduceringer
Sporfornyelse Aarhus-Langå (BANE-27)	Anlæg	2023	673,2	474,5	÷3 måneder	Ingen ændringer
Sporfornyelse Hobro-Aalborg (BANE-28)	Anlæg	2020	844,1		22 måneder ³⁾	Ingen ændringer
Sporfornyelse København-Høje Taastrup (BANE-29)	Anlæg	2023	535,4	524,3	÷8 måneder	Ingen ændringer
Sporfornyelse Køge Bugt-banen (BANE-30)	Anlæg	2020	881,4	768,2	33 måneder	Ingen ændringer
Sporfornyelse Langå-Hobro (BANE-31)	Anlæg	2021	813,7	633,4	÷2 måneder	Ingen ændringer
Sporfornyelse Ringsted-Nykøbing Falster (BANE-32)	Anlæg	2024	193,9	137,9	2 måneder	Ingen ændringer
Sporfornyelse Slagelse-Korsør (BANE-33)	Anlæg	2021	250,0 ²⁾	256,3	20 måneder	Ingen ændringer
Sporfornyelse Struer St. (BANE-34)	Anlæg	2023	144,1	96,7	0 måneder	Ingen ændringer
Sporfornyelse Valby-Frederikssund (BANE-35)	Anlæg	2021	544,4	555	0 måneder	Reduceringer
Sporfornyelse Vejle St. (BANE-36)	Anlæg	2021	70,4	67,3	0 måneder	Ingen ændringer
Sporfornyelse af Slagelse St. og Fjenneslev-Forlev (BANE-37)	Anlæg	2018	526,3	601,7	18 måneder	Ingen ændringer
Sporfornyelse på strækningen Klampenborg-	Anlæg	2020	449,3	440,0	0 måneder	Ingen

Back to where we started

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Q&A

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