



Smart Transport Modelling, Operations & Asset Management

BETTER SCENARIO PLANNING FOR LARGE SCALE TRANSPORT PROGRAMMES

OPEN PLAN



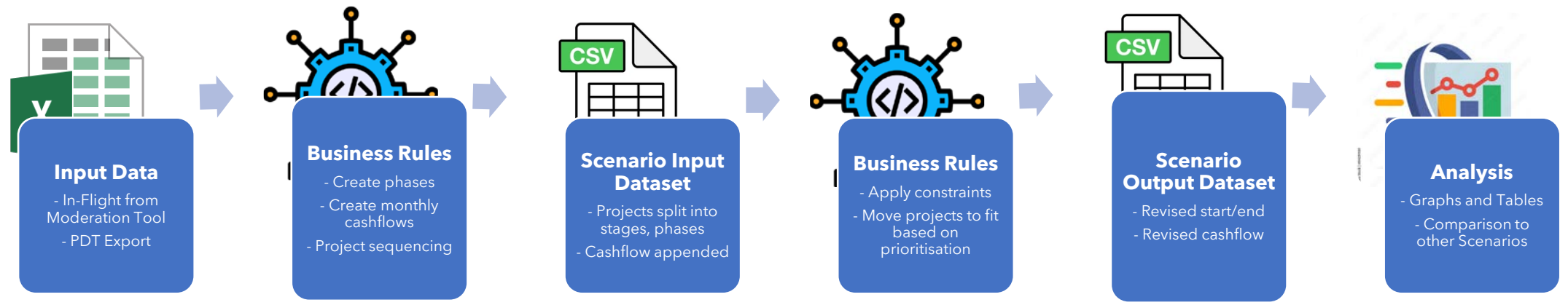
THE PROBLEM

- SIP had a long list of 1000s of projects in PDT with standard information
- How can we get more detail on project phasing and duration?
- How can we prioritise our projects and apply funding constraints?
- Can the resulting Programme be delivered and meet programme targets?

THE VALUE OF A MODEL

- Useful at an aggregate programme level
- Test what-if scenarios and visualize tradeoffs
- Gives a first baseline to track programme performance against
- Works best without too much manual manipulation...

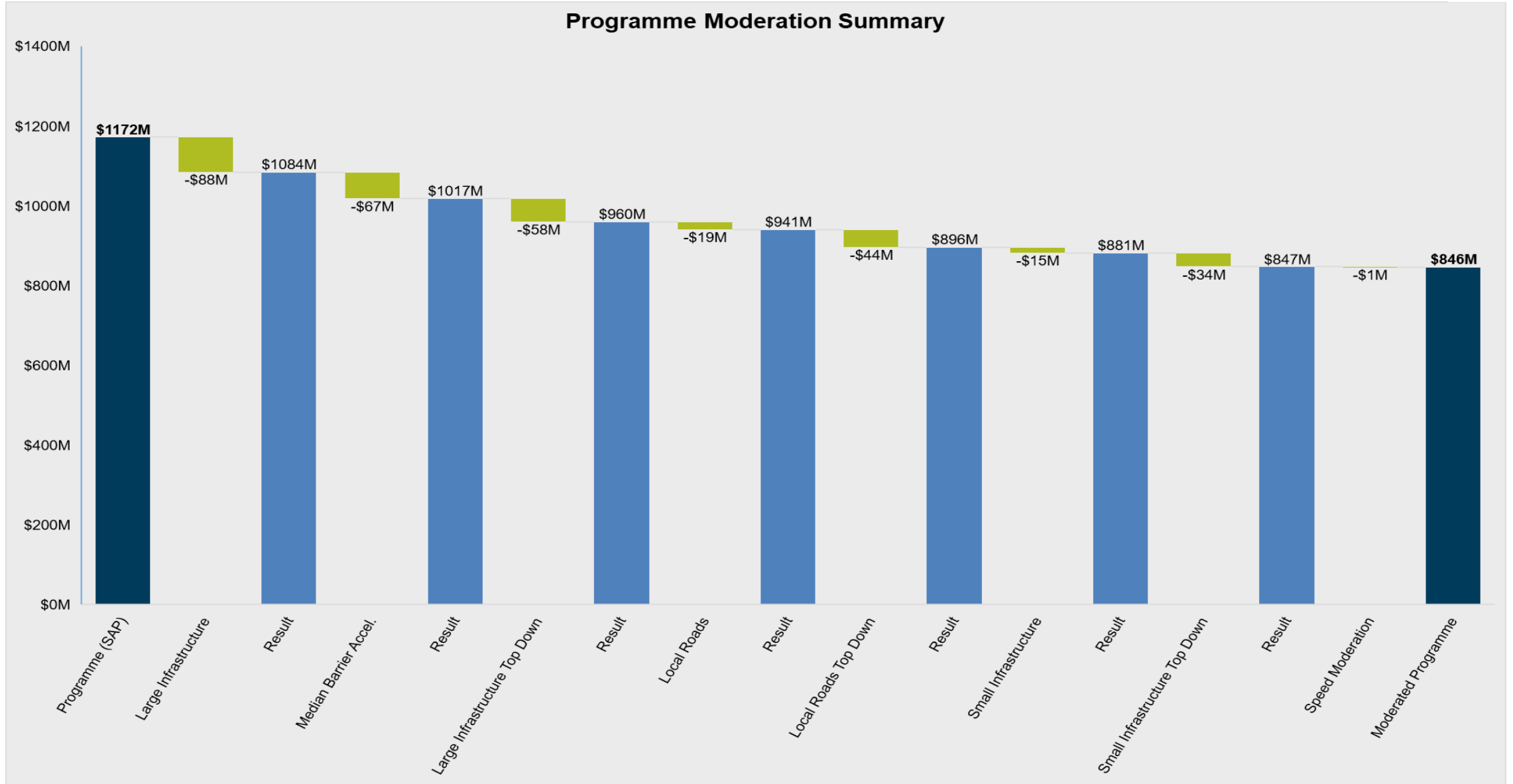
THE PROCESS



PROGRAMME MODERATION

- A realistic picture of in-flight future cashflow
- Top-down automated via the tool
- Bottom-up tools to assist project managers/PMO

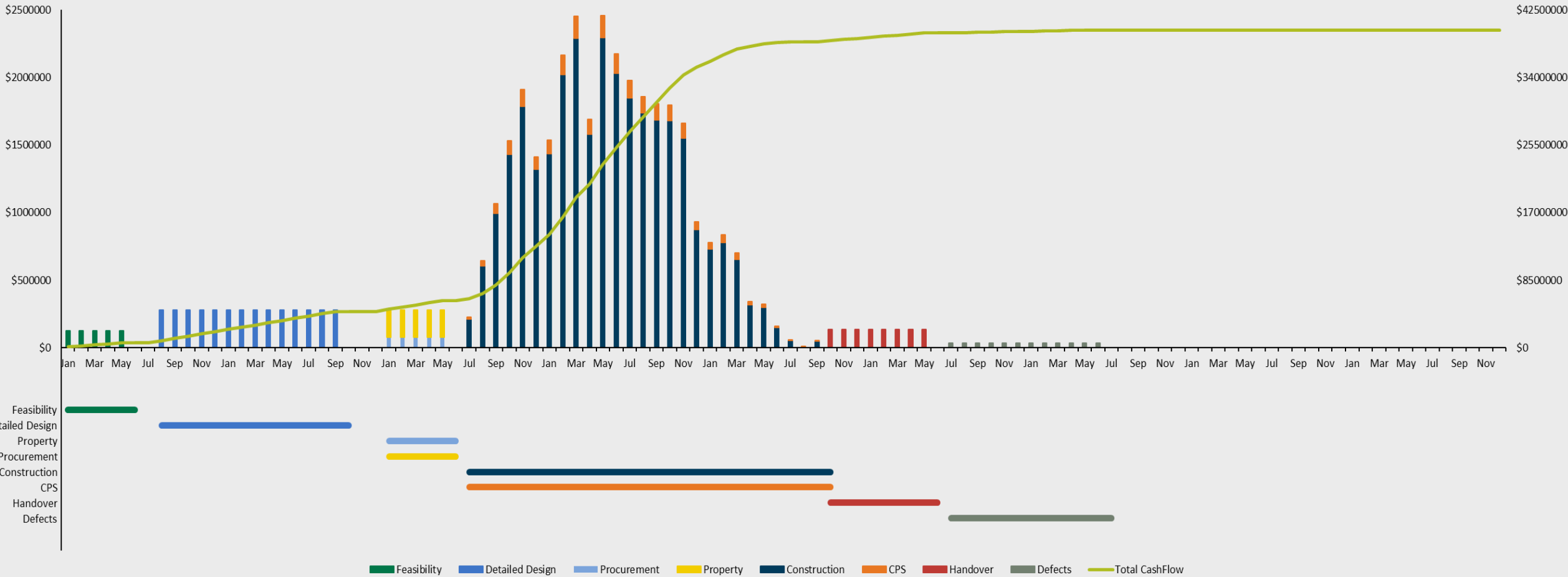
PROGRAMME MODERATION



CASHFLOW FORECAST

- Business Rules by treatment type and project cost
- Duration governed by a spend rate
- 8-phases
- Curved construction spend and Seasonality
- Test different delivery rates

CASHFLOW FORECASTING



PRIORITISATION

- Set funding constraints – nationally or by region
- Ability to manually rank projects
- The tool can rank projects by their contribution to programme targets per \$
- Ability to turn targets on and off
- Ability to manually adjust projects in output

PRIORITISATION



Scenario 4a

	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40
Spend	\$158,398,515	\$171,711,139	\$210,575,769	\$245,252,096	\$333,333,180	\$286,916,086	\$333,332,505	\$333,332,758	\$303,372,852	\$333,333,010	\$315,797,343	\$121,557,787	\$60,237,826	\$40,189,119	\$31,945,384	\$19,215,460	\$10,919,322	\$8,463,611	\$0	\$0
Activity Class Limit	\$0	\$0	\$0	\$0	\$0	\$333,333,333	\$333,333,333	\$333,333,333	\$333,333,333	\$333,333,333	\$333,333,333	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Total Spend
\$2,709,557,909

Total DSI Saved
261.71

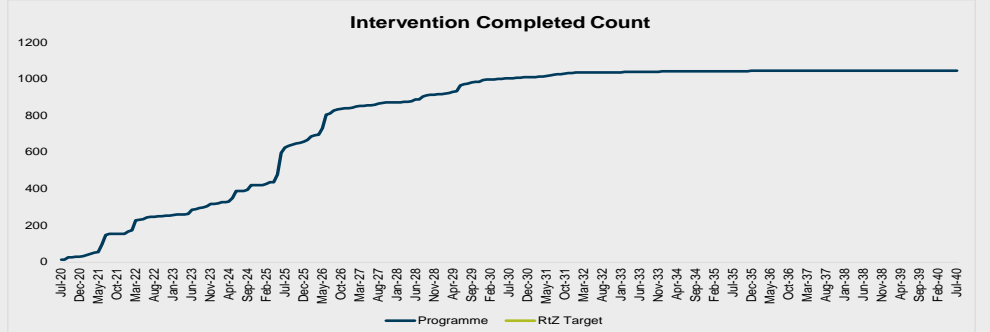
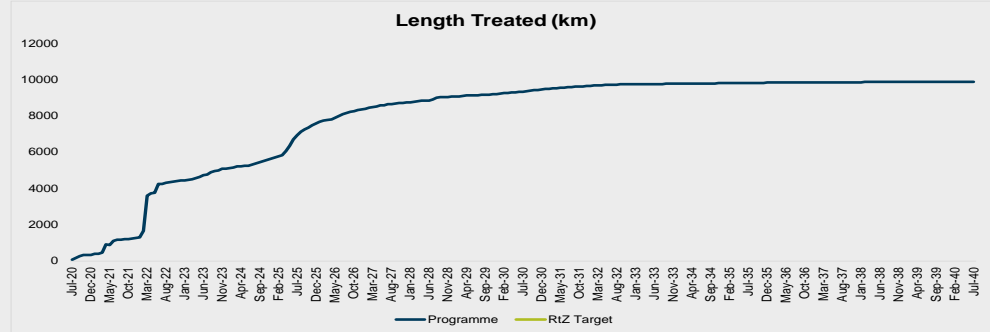
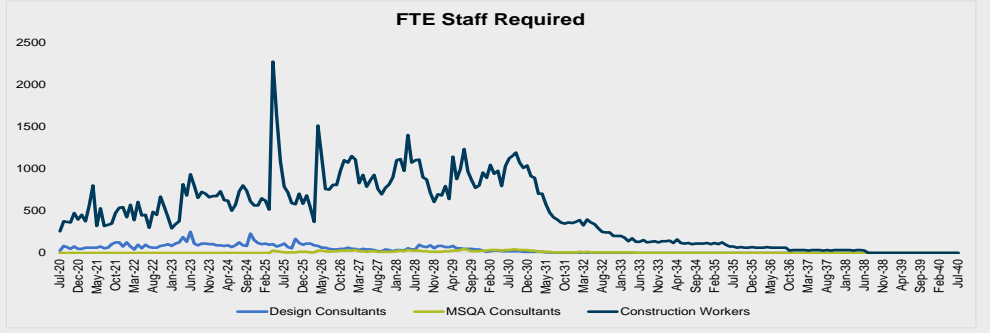
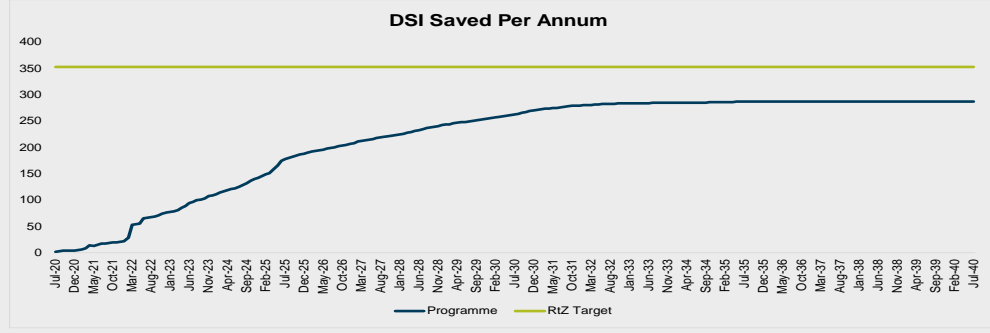
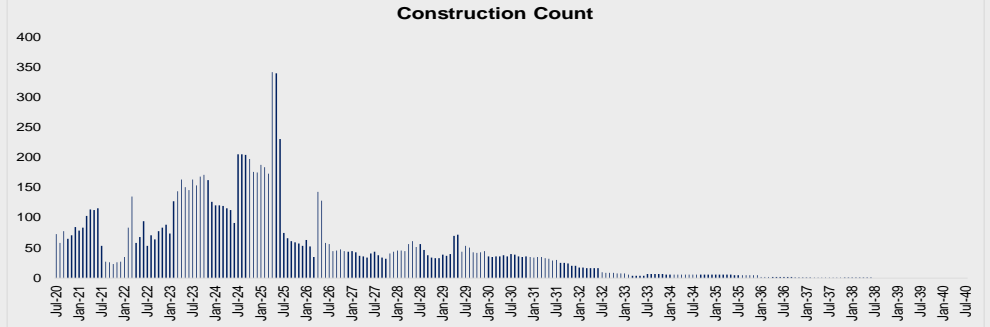
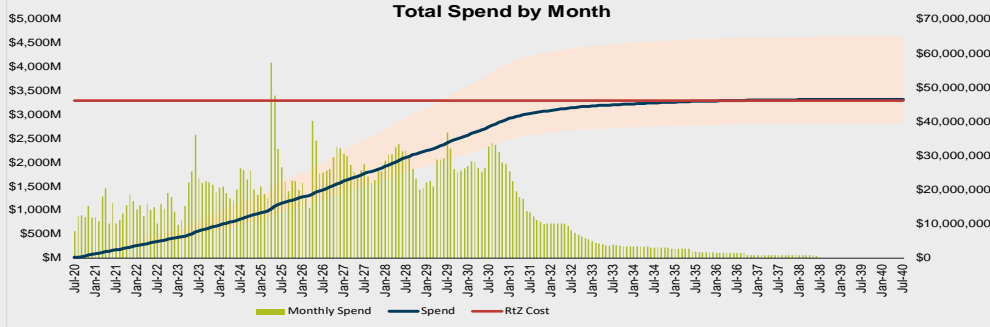
Total Length Treated
9321.0

Completed Interventions
1004

Phase
Total

Region
Total

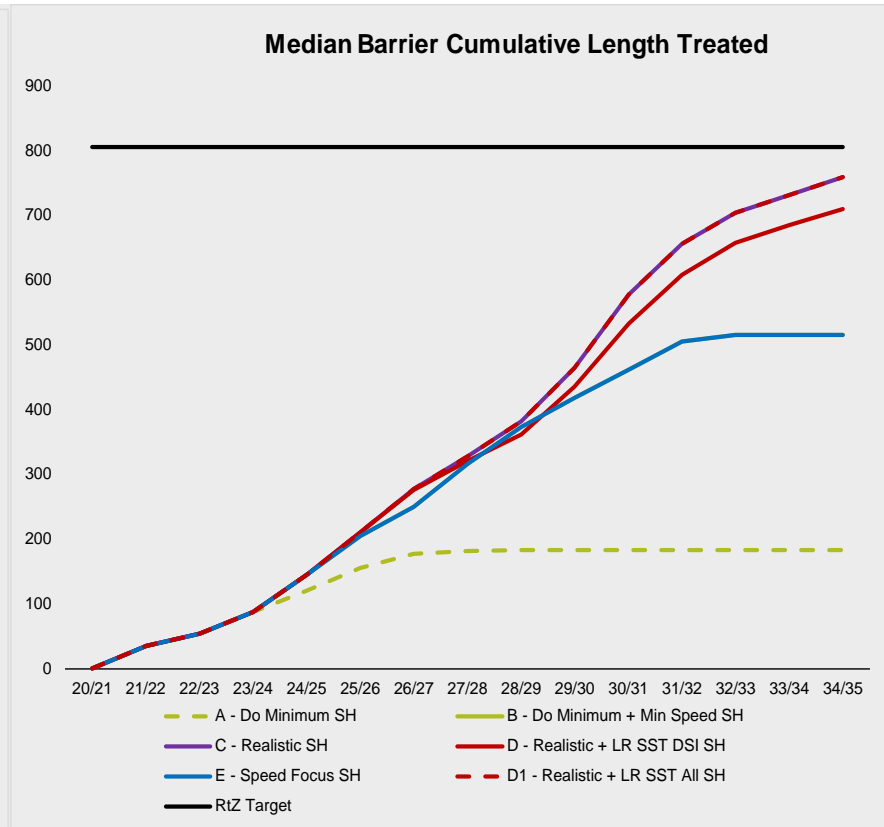
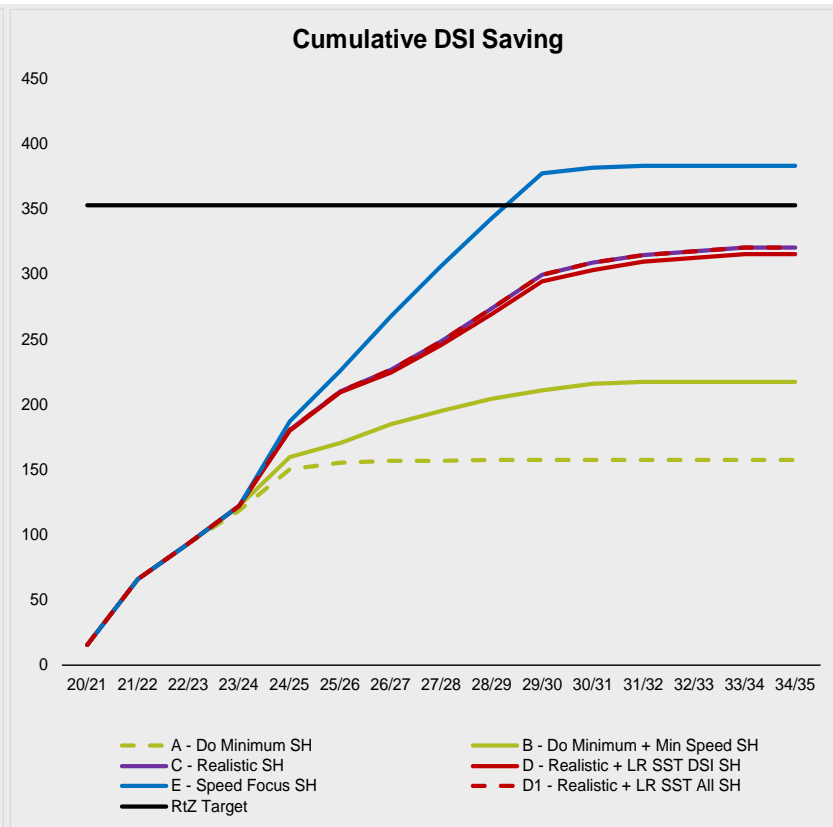
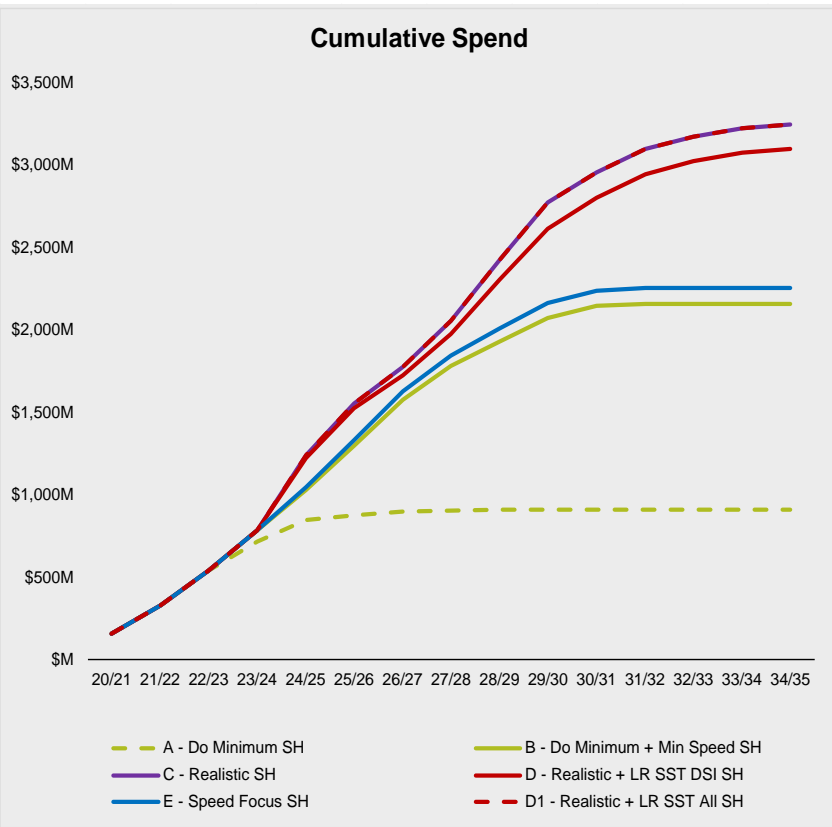
Treatment
Total



SCENARIO COMPARISON

- Run multiple scenarios and what-ifs
- View and compare results
- What is the best scenario for the programme?
- Goal seek – how much do we need to spend to hit targets?
- Visualize tradeoffs

SCENARIO COMPARISON



THE FUTURE

- More large infrastructure programmes could benefit from data-driven planning
- Works best with standardised data
- Paints a clear picture for governance on programme delivery
- Better decision-making!



OPEN PLAN



Open Plan is a multi-disciplinary team who operate primarily in the transport infrastructure space. They also act as the operating agents for the [Digital Built Aotearoa Foundation](#) – managing their open-source digital tools including the [National Forward Works Viewer](#) and the [NZ Underground Asset Register](#).

Find out more at www.openplan.co.nz