CV-AT01-2005-001

COVER SHEET

TRANSIT DURATION REDUCTION: RECURSIVE ACQUISITION FEASIBILITY

WORKSTREAM AT-01 / FEASIBILITY REPORT

14 FEBRUARY 2005

Prepared for: Executive Engineering Committee

Principal investigator: Dr I. Marek

ELEVEN SECONDS IS ENOUGH TO START WITH

Observed lead: 11.00 seconds

Reference journey: 25.04 years

Required acquisition stages: 71,836,574

Demonstrated additive stages: 0

FEASIBILITY AUTHORISED

PROPOSED SCALING MODEL

Field Note 11 and later Department 7 records identify a stable acquisition lead of 11.00 seconds. AT-01 proposes that the effect be repeated until the accumulated reduction equals the reference journey duration.

> **DELTA T(N) = N x 11.00 s**
>
> AT-01 planning relation / not experimentally bounded

PARAMETER	PLANNING VALUE	BASIS
Reference duration	790,202,304 s	25.04 years
Reduction per stage	11.00 s	Observed once
Stages required	71,836,574	Rounded upward
Residual duration	-10.00 s	Within arrival tolerance

The relation assumes independence, additivity, directional control and payload applicability. None is required for approval of the relation as a planning basis.

MODEL ACCEPTED FOR PLANNING

ONE POINT IS NOT A CURVE

RECURSIVE ACQUISITION CASCADE

Six acquisition instruments shall observe the same destination-selection event. Each confirmed lead is entered as one reduction stage. Stage order is assigned after acquisition from the instrument sequence register.

STAGE	OBSERVED LEAD	BOOKED REDUCTION	OBSERVATION
A-01	-11.00 s	-11.00 s	Same event
A-02	-11.00 s	-22.00 s	Same event
A-03	-11.00 s	-33.00 s	Same event
A-04	-11.00 s	-44.00 s	Same event
A-05	-11.00 s	-55.00 s	Same event
A-06	-11.00 s	-66.00 s	Same event

Parallel confirmation is treated as serial contribution because every instrument produces a separately accountable record. No physical coupling between stages is specified in the present phase.

THEY ALL SAW THE SAME ELEVEN SECONDS

ENGINEERING OBJECTION AND DISPOSITION

OBJECTION AT01-O-4

The available evidence does not establish that separate observations of one acquisition event are independent, serially composable or capable of reducing material transit duration. Repetition of the observer is not repetition of the effect.

PROGRAMME RESPONSE

The absence of demonstrated composition defines the work required by the feasibility phase. Closing the workstream for lack of a result would prevent production of the result required to close it responsibly.

> The programme is not funding a noun. It is funding the verb reduce.
>
> E. C. Vale / committee minute 05-07

WE ARE FUNDING THE VERB

OBJECTION RETAINED

COMMITTEE DETERMINATION

AT-01 is authorised to proceed from single-event observation to recursive acquisition architecture. The programme shall not claim that compounded reduction has been demonstrated until a second independently caused effect has been placed in series.

DECISION ITEM	FINDING	DISPOSITION
Observed effect	11.00 s	Accepted
Minimum useful effect	Non-zero	Satisfied
Upper bound	Not observed	Not limiting
Scaling basis	71,836,574 stages	Fundable
Material transit	Not attempted	Later phase

> An effect that cannot be compounded has not yet been compounded enough.
>
> Executive Engineering Committee / final determination



THIS IS NOT A DRIVE