Introduction

• Director of Atkins
• 30+ years experience of major scheme appraisal
• Parish councillor & vice chair
• Chair of community bus team
• Heritage railway volunteer

…a range of perspectives…
Structure of presentation

Appraisal basics
WebTAG
Stages of the process
The Appraisal Summary Table (AST)
Modelling
Key ‘drivers’ of appraisal
Key ‘absentees’ from appraisal
How it works in practice
Transport ‘scheme’ appraisal

Supports the decision making process

Explains the effects (impacts) of different solutions (interventions) – focus on changes/differences

Provides evidence for the business case

- Strategic – case for change, policy fit
- Economic – UK plc, value for money
- Financial – funding and accounting
- Delivery – implementation plan, engagement, risk
- Commercial – financing, risk allocation
How appraisal works

WebTAG - DfT

- Web based Transport Appraisal Guidance

Defines the process for appraisal
Identifies appropriate tools
Provides key parameters
Ensures consistency

...provides guidance – not rules – but …
WebTAG – the process

Problems and objectives

Option development

Appraisal of impacts

Evidence for business case

Decision making
Stages of the process

Option generation

- Initial design and appraisal of options
- Early evidence – Strategic Outline Business Case (SOBC)
- Options Assessment Report (OAR) – short-listing for further analysis

Detailed analysis of preferred options

- Appraisal Specification Report (ASR)
- Detailed design and full appraisal
- Appraisal Summary Table (AST)
- Outline Business Case (OBC)
Stages of the process

Preferred option

• Review/update design
• Review/update appraisal
• Final Business Case (FBC)

Implementation - monitoring and evaluation

• Delivery according to plan?
• Is intervention delivering expected outcomes and objectives?
The AST (appraisal summary table)

- **Economy** — users, regeneration, wider impacts
- **Environmental** — noise, air quality, greenhouse gases, landscape, townscape, historic, biodiversity, water
- **Social** — journey times, reliability, physical activity, accidents, security, access to services, severance, affordability
- **Public accounts** — costs and tax revenues

Monetised or quantified where possible, otherwise a qualitative assessment – driven by modelling…
Transport modelling - inputs

- Travel demand — activities and land use
- Travel supply — network and services
- User choices — concept of ‘generalised cost’
- User groups — aggregation and averages
- External factors — trends — e.g. GDP growth, car ownership…
- Detailed guidance in WebTAG
  …‘WebTAG compliance’…
Transport modelling - process

• Base year model — representation of ‘today’ - calibration and validation
• Reference or do-minimum case — what would happen anyway
• Do-something cases — what happens with modelled intervention
• Appraisal examines changes from reference case
• Modelled changes limited to modelled attributes

…model processes well understood – issues arise from inputs to models…
Transport modelling - outputs

• Volumetric data — person, passenger and vehicular flows
• Network performance — travel times, congestion (delays and queue lengths)
• Inputs to economic assessment tools
• Inputs to environmental assessment tools - noise, air quality, greenhouse gases
• Inputs to social impacts tools — distributional analyses

…modelling drives much of the appraisal…
Key ‘drivers’ of appraisal

• Economy - Travel time changes tend to drive economic impacts
• Environment — traffic flows drive noise, air quality and greenhouse gas impacts
• Social effects — accessibility, severance, environmental impacts
• Land take — environmental and social impacts
• Intervention costs — capital and revenue
Key ‘absentees’ from appraisal

• Travel reliability — journey time variability
• Individual behaviour — effects of aggregation and averaging, how people use and value time
• Crowding on public transport — included in some rail models
• Seasonal effects — impacts on demand and supply
• Impacts of new technology — intelligent mobility

...land use and transport interaction is often missing — but not in Cambridgeshire!
Example – high quality bus (BRT)

Model shows transfer from car to bus plus increased travel overall:

• Reduced traffic – environmental benefits (noise, air quality and greenhouse gases)
• Reduced highway congestion – travel time benefits, may be partially offset by release of suppressed traffic
• Improved accessibility, especially for non-car users – social benefits
• Increased use of bus mode – health benefits due to increased physical activity
• Overall increase in travel – wider economic benefits
Example – Park and Ride

Model shows some car users divert to P&R site with small increase in travel overall:

• Increase in traffic in immediate vicinity of P&R site – environmental impacts (local noise and air quality)
• Reduced traffic in urban area – environmental benefits (noise, air quality and greenhouse gases), social benefits (severance)
• Reduced highway congestion overall – travel time benefits, may be partially offset by release of suppressed traffic
• Land take – environmental impacts (landscape, biodiversity, water)
• Overall increase in travel – wider economic benefits
## Example – Park and Ride

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<th>New traffic</th>
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Summary

• Appraisal process a requirement of DfT
• Process well defined by WebTAG – provides tools and detailed guidance
• Appraisal a comparative process – focus on change from ‘what would happen anyway’
• Much of appraisal driven by transport modelling
• Transport modelling limited to attributes represented in the model
Discussion

For further information see WebTAG guidance for the senior responsible officer:

The End