Transport Modelling of the WBC Local Plan

Appendix F

August 2021

Revision History

Revision	Revision date	Details	Authorised	Name	Position
1	14/07/21	Appendix F	LA	Laura Appleton	Principal Consultant

1. Appendix F – Infrastructure Sifting Process
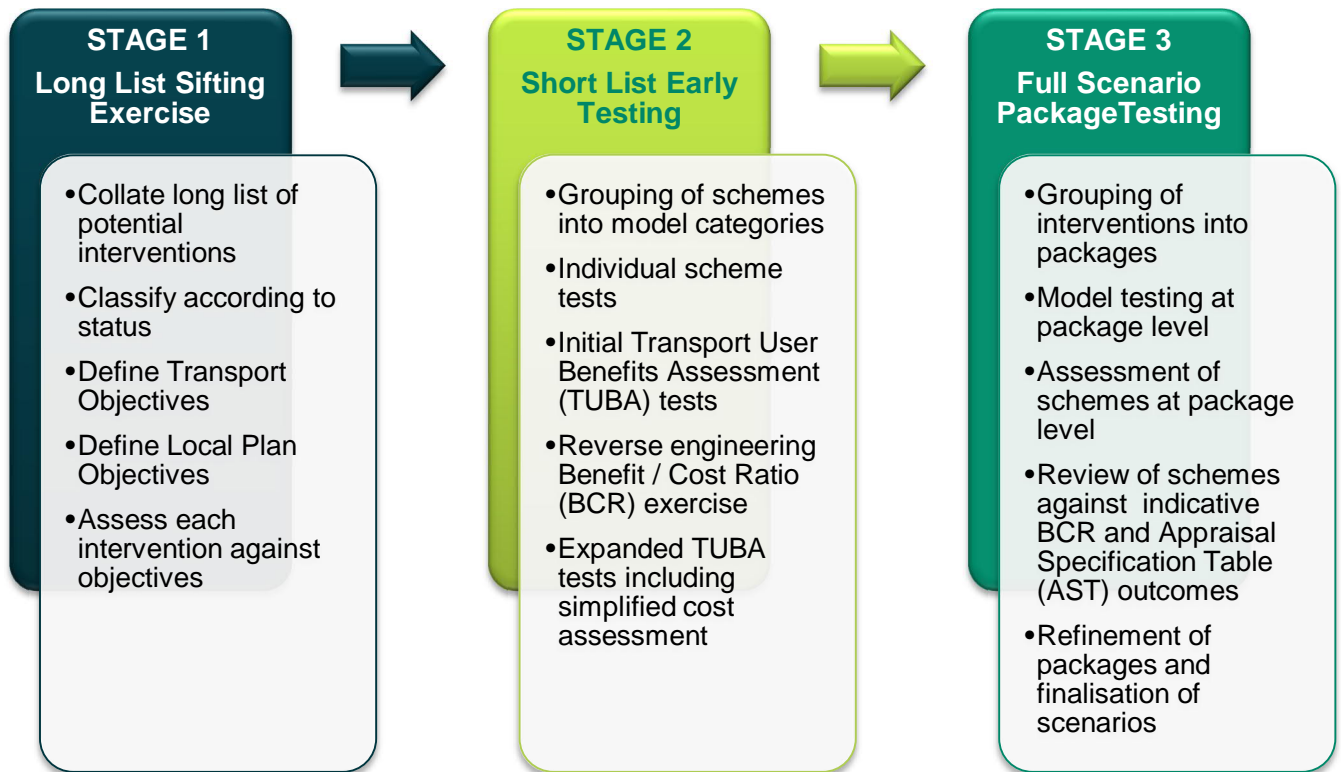
Ref: Chapter 5, Para 5.4

Forecast Supply- Transport Infrastructure & Policy Interventions

1.1   Chapter 5 covers the supply side of the WMMTM16 Uncertainty Log and the key features of the supply component of the WMMTM16 forecasts; supporting infrastructure and policy interventions needed in order to be able to support the level of growth identified in the PSVLP.

1.2   In order to support the level of growth identified in the PSVLP, there is a need for investment in the transport network as well as a consideration for policies that deliver transformational behavioural change.

Scenarios

1.3   Three transport infrastructure and policy scenarios have been considered:

- **Scenario 1**

    – This scenario considers all the developments (land use changes) outlined in Chapter 3 with only committed highway infrastructure included.

- **Scenario 2**

    – As Scenario 1 plus a number of additional highway infrastructure schemes that are required to enable the PSVLP growth to occur in a number of locations.

- **Scenario 3**

    – As Scenario 2 plus 2 policy interventions in addition to those already committed.

1.4   The creation of these scenarios is the result of a multi-criteria assessment review of a long list of potential highway infrastructure schemes and policy interventions that could be implemented within the Borough. The potential interventions underwent a series of sifts with increasing levels of detailed analysis at each stage to derive the final scenario combinations.

1.5   The key stages in this process are detailed in Figure 1.

Figure 1. **Process to Develop Final Scenario Packages**

STAGE 1 Long List Sifting Exercise	STAGE 2 Short List Early Testing	STAGE 3 Full Scenario PackageTesting
• Collate long list of potential interventions • Classify according to status • Define Transport Objectives • Define Local Plan Objectives • Assess each intervention against objectives	• Grouping of schemes into model categories • Individual scheme tests • Initial Transport User Benefits Assessment (TUBA) tests • Reverse engineering Benefit / Cost Ratio (BCR) exercise • Expanded TUBA tests including simplified cost assessment	• Grouping of interventions into packages • Model testing at package level • Assessment of schemes at package level • Review of schemes against indicative BCR and Appraisal Specification Table (AST) outcomes • Refinement of packages and finalisation of scenarios

Stage 1 – Long List Sifting

Figure 2 summarises the process of sifting the long list of interventions against a number of model and wider policy objectives.
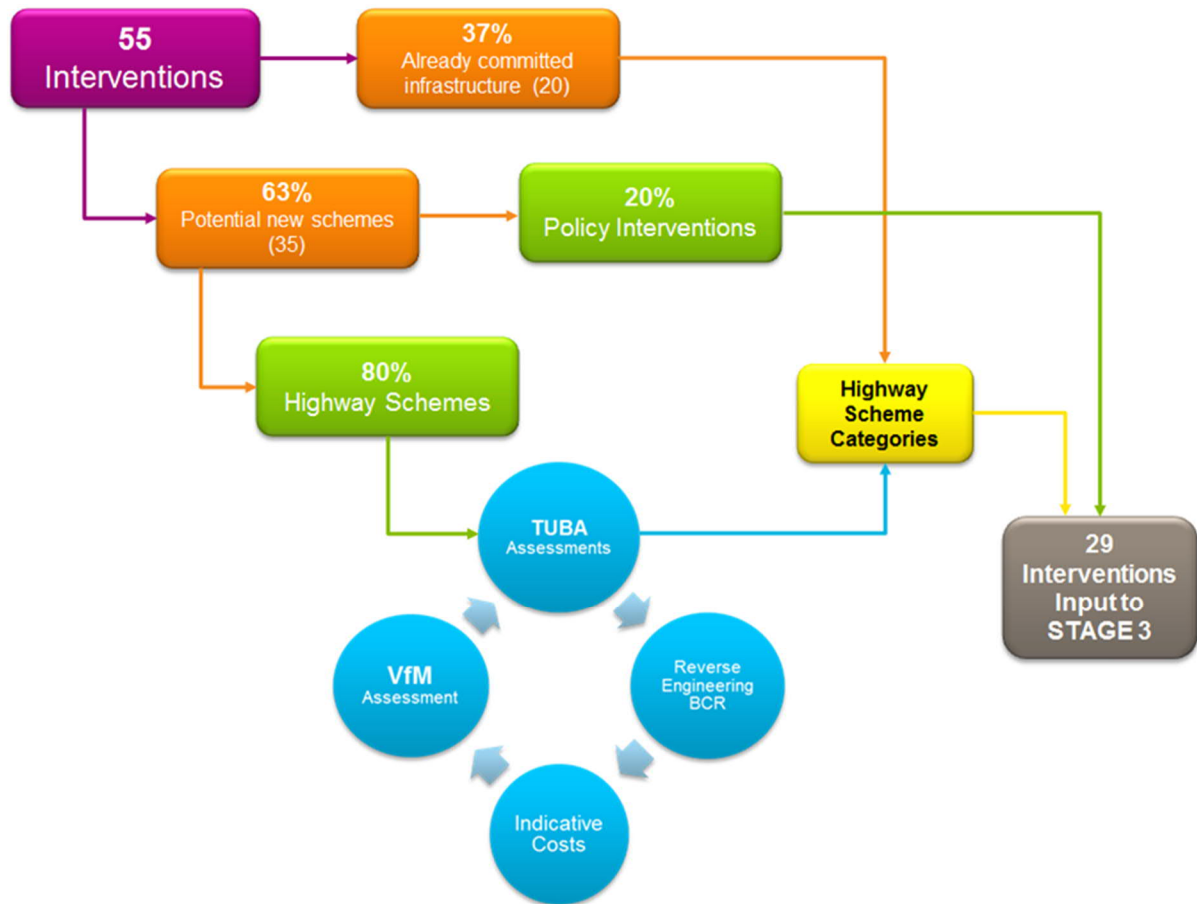
Figure 2.   **STAGE 1 Process Diagram**
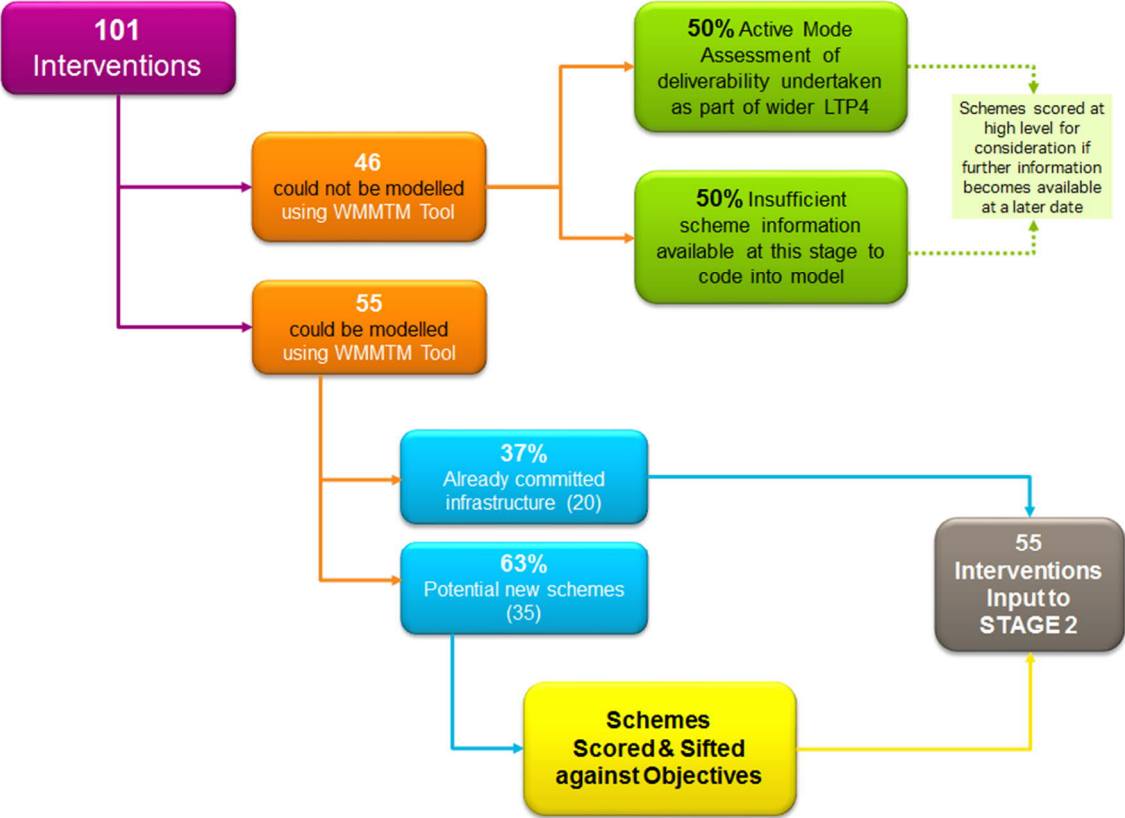
Stage 2 – Initial Short List Testing

Following Stage 1, **Figure 3** summarises the process of early scheme assessment and refinement.

Figure 3.   **STAGE 2 Process Diagram**

1.6
    Highway schemes were tested in the model in isolation to assess their respective impacts, and enable refinements to model coding and optimisation of the scheme design.

1.7   Each of the highway schemes was then run through a TUBA assessment with results giving a reasonable indication of which schemes were likely to deliver user benefits before any costs were taken into account.

1.8   The TUBA assessment was a 2-step process

- Step 1
    – Simple single year assessment looking at user benefits of 2036 only;
    – No costs assumed;
    – No BCR generated;
    – User benefits only, no wider benefits assumed.

1.9   Step 1 enabled further coding updates to be made to optimise scheme performance before undergoing more detailed assessment in Stage 2.

- Step 2
    - Expansion of Step 1 into a full 60 year benefit appraisal period;
    - Calculation of a 'target' Present Value of Costs (PVC) based on each scheme achieving a BCR of 2.0; and
    - This PVC was then converted into 2018 prices (assuming scheme opening in 2036).
    - Step 2 produced results that gave early indication of those schemes that were producing greater benefits than dis-benefits.
    - Schemes could then be allocated using WebTAG Value for Money (VfM) bands:
        - **Very High (>4)**
        - **High (2-4)**
        - **Medium (1.5-2)**
        - **Low (1-1.5)**
        - **Poor (<1)**

1.10   This step identified the schemes that were potentially worth considering and testing in more detail beyond this modelling exercise. It also enabled initial grouping of schemes into categories based on likelihood:

- Committed;
- Development enablers; and
- 'Other' interventions.

Stage 3 –Scenario Testing

1.11   The results of the initial testing of packages based on the 'likelihood' categories in Stage 2 start to show the relative contributions of groups of schemes to potential user benefits. This grouping was further refined and finalised in Stage 3 (**Figure 4**).

Figure 4.   **STAGE 3 Process Diagram**
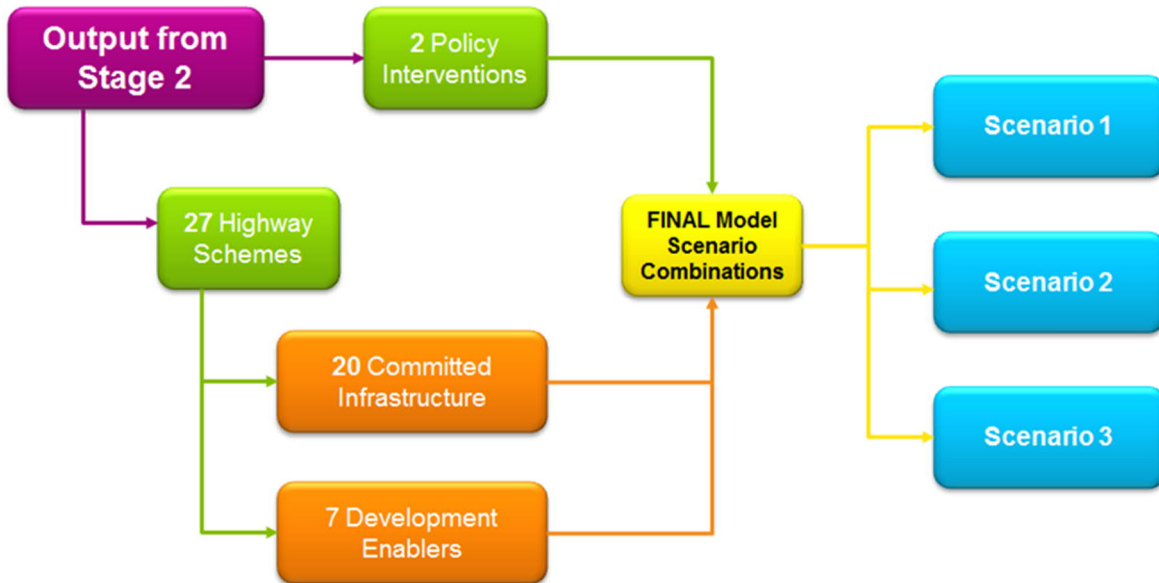
1.12   Once the highway schemes were finalised, testing began on combining the highway components with the wider policy interventions. From this, the final scenarios were produced. Please refer back to the main report for this detail.