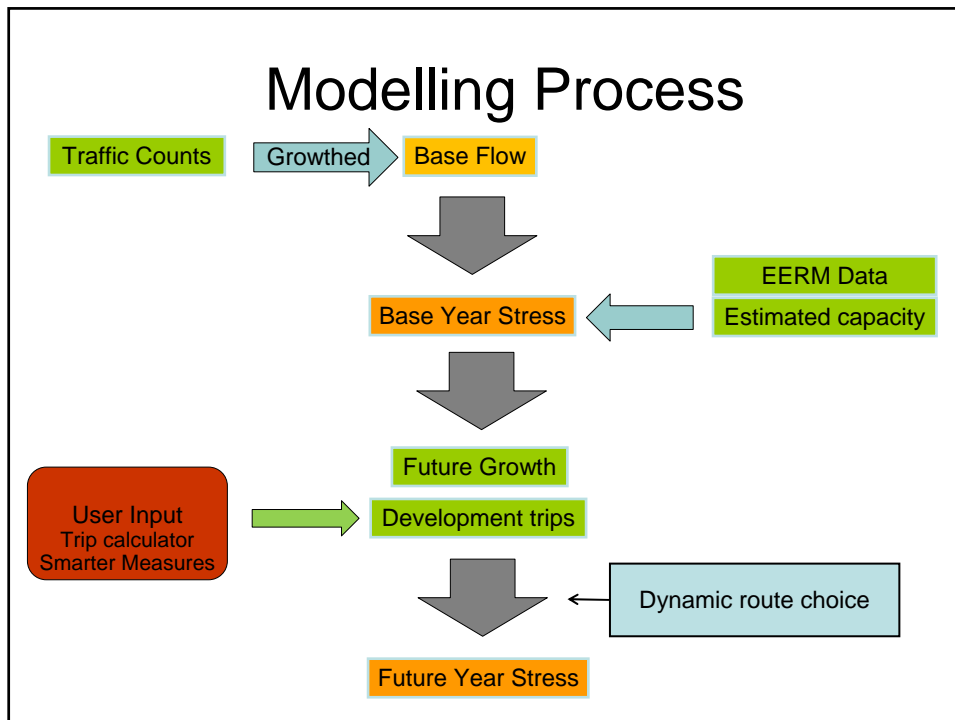


Traffic Modelling to Support the Local Plan Process

Sue Jackson - Hertfordshire County Council

Why do we need models?

- To provide empirical evidence of the traffic impact of new development
- To help assess the advantages / disadvantages of different locations
- To identify likely traffic problems and potential mitigation measures



- ## Types of Model Available
- Diamond Spreadsheet Model
 - Area wide Highways Model
(Harlow Stansted Gateway Traffic Model)
 - Detailed models (microsimulation models / junction models)

DIAMOND

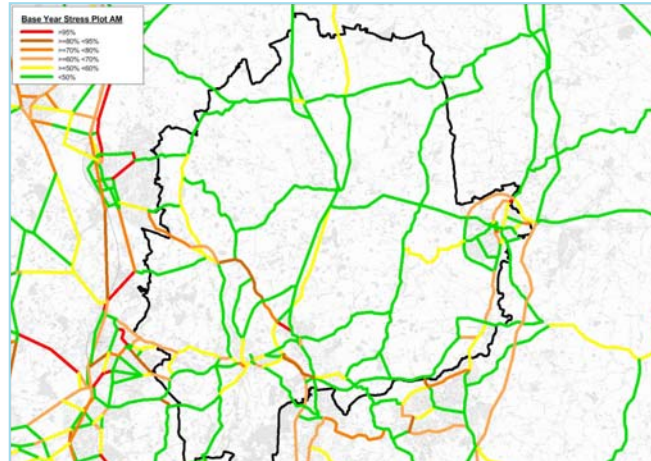
Development Impact Assessment Model Of Network Demand

- Excel spreadsheet based tool
- Ideal for strategy selection process as run more cheaply and quickly than traditional traffic models
- Gives a high level assessment of different options and initial comparisons

Benefits of Diamond

- Developed on behalf of Highways Agency and used elsewhere in Herts
- Dynamic route choice based on congestion levels
- Linkage with Regional Transport model (EERM)
- Quickly test 'what if' travel demand changes scenarios
- Option sifting

2009 Base Year AM Volume/Capacity ratios, by link



Diamond Limitations

- Based on link assessment. Junctions likely to fail first
- Limited route choice (development traffic only)
- Can't model impact of new infrastructure (including mitigation measures) – pessimistic assessment
- Can't model junctions

How does it support the local plan?

- Overall network statistics (average speed / journey time / delay) help identify which options are best
- Calculation of volume to capacity ratios identifies where increased traffic volumes will result in problems
- Use for initial option sifting, and to identify problem locations

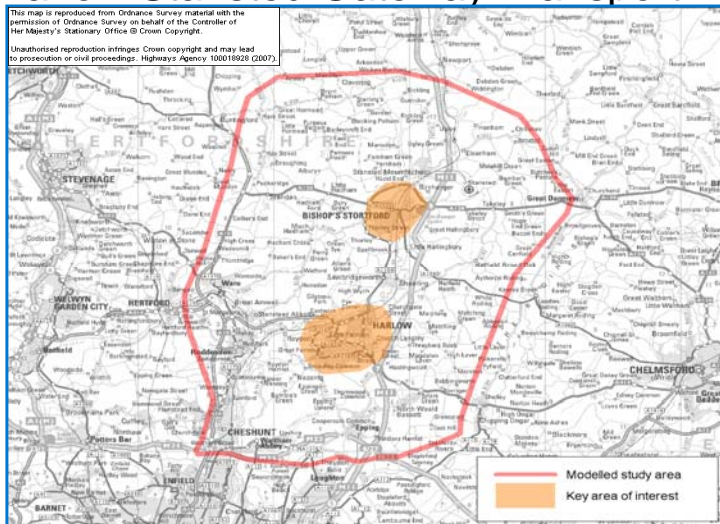
Area Wide Highway Modelling

- **Specialist highway modelling computer software (eg Saturn)**
- **Input intensive, typically time consuming & costly to set up and run**
- **Models congestion effects and full impacts on junctions**
- **Can code in new highways infrastructure and test the effects**

Use of Area Wide Modelling

- Future tests of Preferred options
- Identification of detailed highway effects (junction capacity problems / large increases in flow, changes in journey times)
- Identification of where traffic from a particular development travels to
- Test / design of mitigation measures

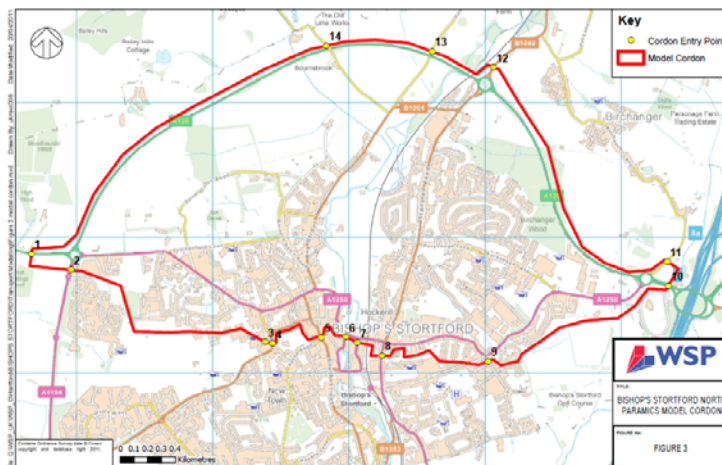
Harlow Stansted Gateway Transport Model



Detailed local modelling

- Local area models eg Paramics plus individual junction models
- Usually developed to support planning applications
- Used to demonstrate that highway impacts of application can be mitigated

Bishops Stortford North Paramics Model



HCC's role

- Acting as technical client on EHDC's behalf
- Advice on modelling strategy – what appropriate at each stage
- Assistance with interpretation of results
- Liaison with Highways Agency & other LAs

Next Steps

- Diamond Modelling appropriate for initial sifting and refinement of options
- Modelling has indicated likely problem areas and helped inform thinking on possible mitigation measures
- Need for area based highways modelling to test preferred option(s) going forward along with potential mitigation measures