

NEPA Traffic Forecasting & Analysis

Turnpike 101

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1-1/21/06
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NEPA Traffic Forecasting & Analysis

NEPA Forecast

- Traffic volumes typically higher to insure adequate facility design and impacts.
- Used for NEPA Documentation and functional design.
- Developed for planning purposes typically a 20+ year future horizon.

T&R Forecast

- Traffic volumes typically lower to not over estimate revenue potential.
- Used to determine financial feasibility and will continue to be modified and updated after the NEPA.
- Study years based on bonding. (Potentially 40 years into the future.)

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NEPA Forecast

- Generally based on the locally approved TDM (Travel Demand Model).
- Uses locally approved SE (SocioEconomic) data.
- Methodology, data, and assumptions must be disclosed.

T&R Forecast

- May modify the TDM altering the TAZ (Traffic Analysis Zone) structure.
- Required to review and possibly revise SE data.
- Toll sensitivity methodology is proprietary and is not disclosed.

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NEPA Forecast

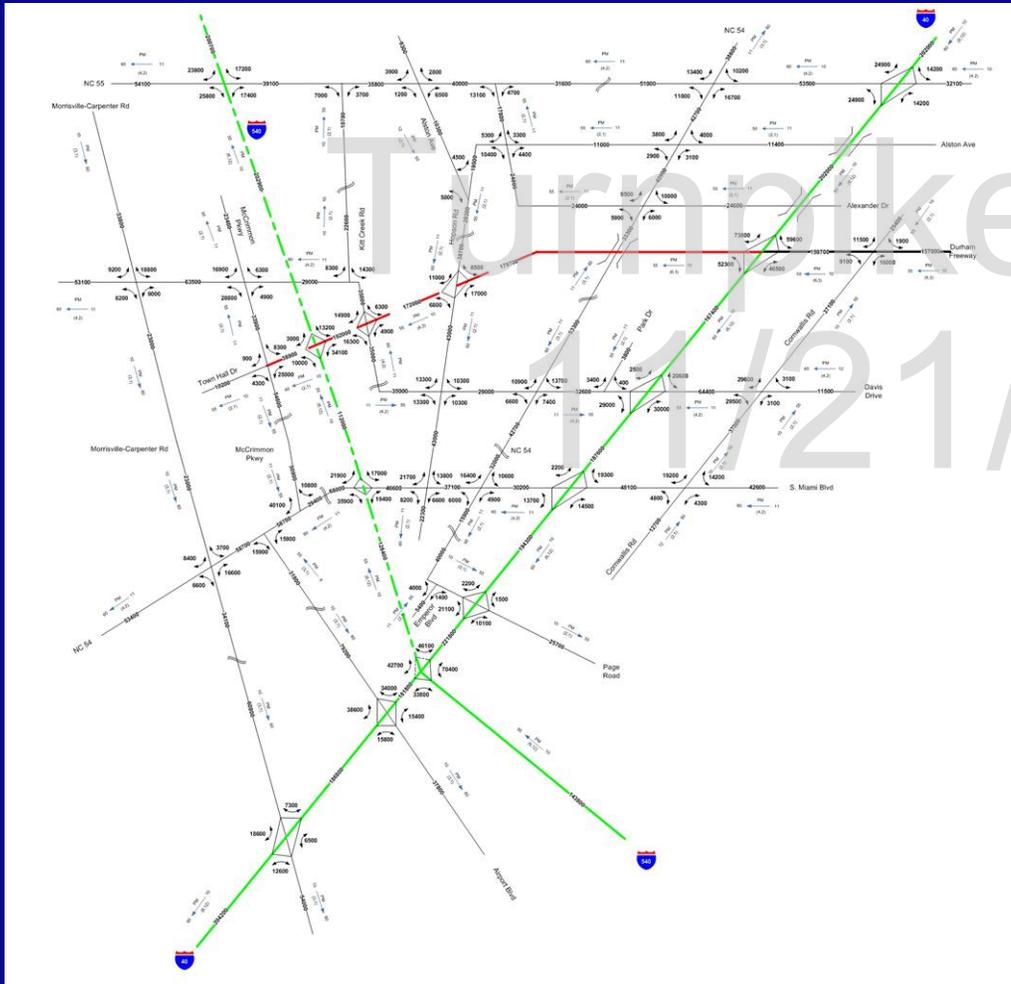
- Forecast consists of the project, crossing roadways, and other key facilities.
- Design values including DHV (Design Hourly Volume), D (Directional Split), and truck percentages are provided.

T&R Forecast

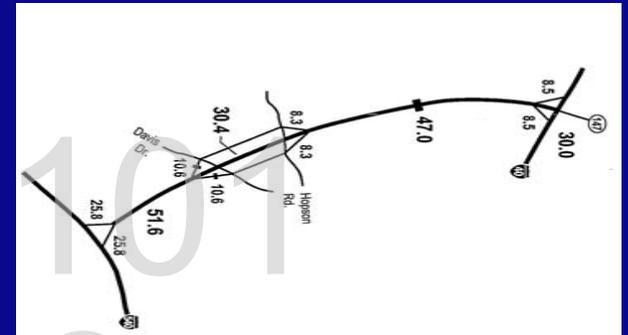
- Forecast volumes are for the project only.
- Additional design values are not provided.

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NEPA Forecast



T&R Forecast



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NEPA Forecast

- One level of NEPA project forecast developed.
- Will be reviewed by NCDOT TPB (Transportation Planning Branch).
- Included as part of the public record.

T&R Forecast

- Three levels of T&R (Sketch, Preliminary, & Investment Grade)
- Will be reviewed by bond rating agencies and investors.
- Included as part of the bond prospectus.

NEPA Traffic Forecasting & Analysis

Development of the NEPA Traffic Forecast for Turnpike projects

- Pivot off non-toll traffic forecast.
- Determine traffic diversion
 - Use Travel Demand Model if available.
 - Determine the ratio between time and money.
 - Toll rates determined from the T&R studies.
 - Add delay to tolled links by assigning a time value equal to the toll amount.
- Forecast reviewed by NCDOT TPB.

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Uses of the NEPA Traffic Forecast

- NEPA Traffic Analysis
- Development of functional designs
- Air Quality analysis (micro-scale analysis)
- Traffic Noise Level analysis (determine design year noise level)
- IMR/IJR (Interchange Modification / Interchange Justification Report) analysis (if required by FHWA)

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NCTA Traffic Analysis

- Toll facility designed to operate at LOS (Level of Service) C or better.
 - Typically NCDOT facilities are designed for LOS D or better.
 - The Turnpike is selling time savings and less congestion.
- Functional analysis of toll lanes.

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Contact Information:

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