North Carolina
DEPARTMENT OF TRANSPORTATION

Traffic Forecasting Overview

January 2014

NCDOT TPB

Traffic Forecast - Overview

- **Traffic Forecasts -** (also called Project Level Traffic Forecasts) provide detailed traffic volumes, turning movements, and traffic design data for the current year and for a future year – typically about 20 to 25 years into the future. They are developed for a specific TIP project, and used for design.

- **Traffic Estimates** – are much less detailed and may include multiple alternatives. They are taken from existing data sources, which may be 5 or more years old.

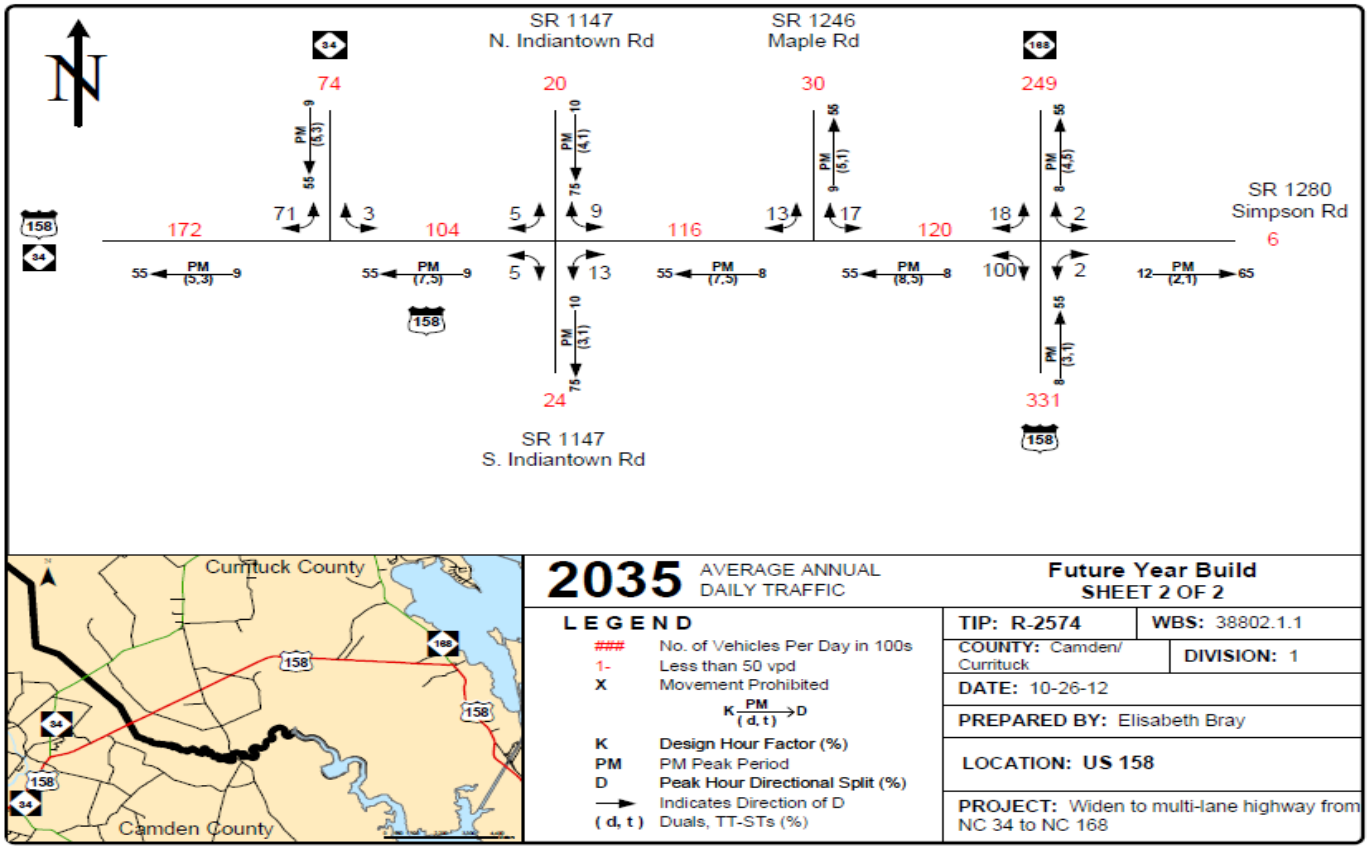
- A traffic estimate and forecast will not give the exact same volumes. Typically they result in the same general design (number of lanes for example).

Traffic Forecast - Overview

	Traffic Forecast	Traffic Estimate
Base Year	Current Year (2013).	Past 1 - 3 years (AADT maps).
Future Year	20 – 25 years into the future.	20 – 25 years into the future.
Data Collection	Published documents (AADT maps; Metropolitan and CTPs, current Travel Demand Model); take traffic counts; site visit; state and local contacts.	Published documents (AADT maps; Metropolitan and CTPs, current Travel Demand Model).
Data provided	Mainline volumes; turning movements at key intersections; truck data; design data (K, D factors).	Mainline volume estimates.
Needed For	TIP projects only. Detailed design for one (or few selected) alternative.	Scoping project; comparison of multiple alternatives.
Turn Around	4 – 7 months.	2 – 4 weeks.
Contact	Form on internet	TPB Geographic Planning Group Supervisor

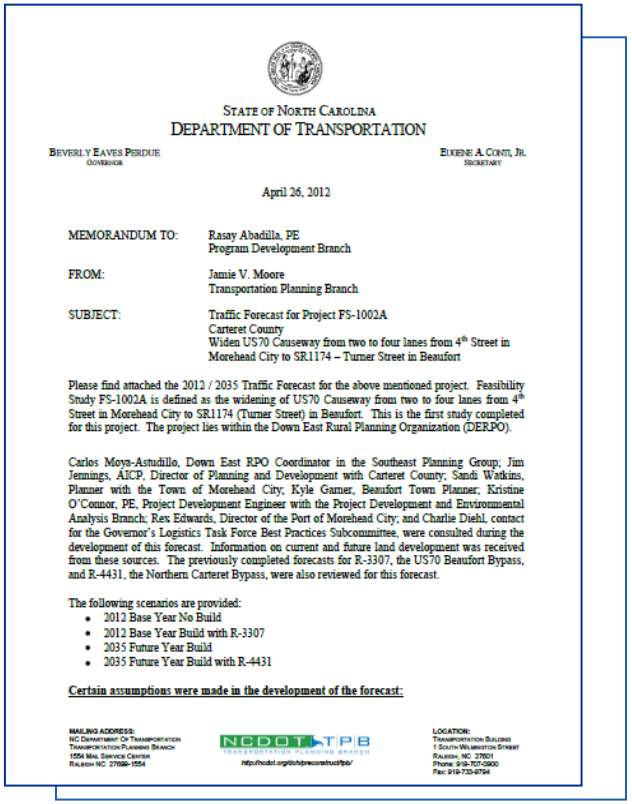
Traffic Forecast - Overview

This is the part of the forecast that is typically seen



Traffic Forecast - Overview

Each forecast also includes a cover letter (which functions as an executive summary) and a detailed report.



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

April 26, 2012

MEMORANDUM TO: Rasay Abadilla, PE
Program Development Branch

FROM: Jamie V. Moore
Transportation Planning Branch

SUBJECT: Traffic Forecast for Project FS-1002A
Carteret County
Widen US70 Causeway from two to four lanes from 4th Street in Morehead City to SR1174 – Turner Street in Beaufort

Please find attached the 2012 / 2035 Traffic Forecast for the above mentioned project. Feasibility Study FS-1002A is defined as the widening of US70 Causeway from two to four lanes from 4th Street in Morehead City to SR1174 (Turner Street) in Beaufort. This is the first study completed for this project. The project lies within the Down East Rural Planning Organization (DERPO).

Carlos Moya-Astudillo, Down East RPO Coordinator in the Southeast Planning Group; Jim Jennings, AICP, Director of Planning and Development with Carteret County; Sandi Watkins, Planner with the Town of Morehead City; Kyle Garner, Beaufort Town Planner; Kristine O'Connor, PE, Project Development Engineer with the Project Development and Environmental Analysis Branch; Rex Edwards, Director of the Port of Morehead City; and Charlie Diehl, contact for the Governor's Logistics Task Force Best Practices Subcommittee, were consulted during the development of this forecast. Information on current and future land development was received from these sources. The previously completed forecasts for R-3307, the US70 Beaufort Bypass, and R-4431, the Northern Carteret Bypass, were also reviewed for this forecast.

The following scenarios are provided:

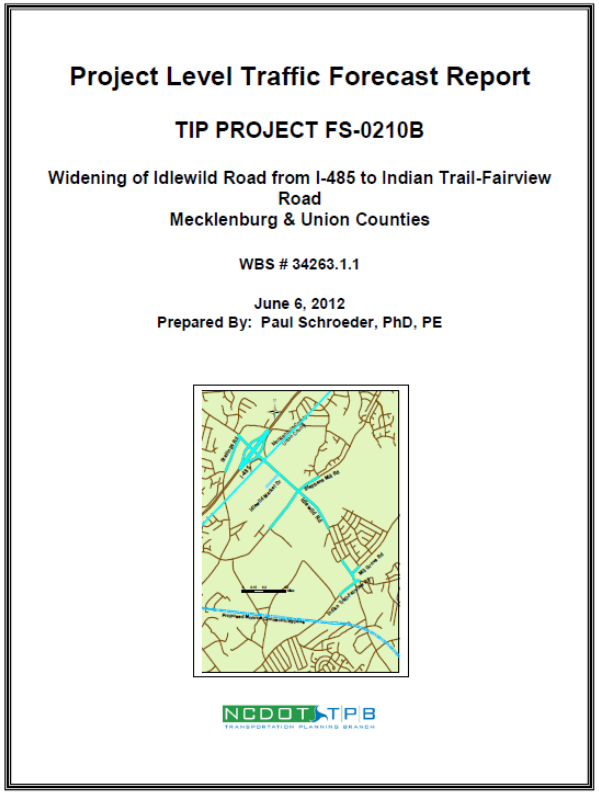
- 2012 Base Year No Build
- 2012 Base Year Build with R-3307
- 2035 Future Year Build
- 2035 Future Year Build with R-4431

Certain assumptions were made in the development of the forecast:

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PLANNING BRANCH
1554 MAIL SERVICE CENTER
RALEIGH NC 27699-1554

NCDOT TPB
TRANSPORTATION PLANNING BRANCH
http://ncdot.org/dot/preconstruct/tpb/

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH, NC 27601
Phone: 919-707-0900
Fax: 919-733-9794



Project Level Traffic Forecast Report

TIP PROJECT FS-0210B

Widening of Idlewild Road from I-485 to Indian Trail-Fairview Road
Mecklenburg & Union Counties

WBS # 34263.1.1

June 6, 2012
Prepared By: Paul Schroeder, PhD, PE

NCDOT TPB
TRANSPORTATION PLANNING BRANCH

Traffic Forecast – Requests

Traffic forecasts are requested by other NCDOT business units:

- PDEA
- PDEA Bridge Unit
- Feasibility Studies
- Roadway
- Other (Divisions; Congestion Management; Design Build; Lighting)

Traffic Forecast – RPO Involvement

Provide Input

We do not explicitly require that the Forecaster contact specific individuals (each area operates a little differently). We strongly encourage interviews with the appropriate staff, which may include, but is not limited to:

- TPB Coordinator
- NCDOT Division staff
- MPO or RPO Coordinator
- Local government planning staff (city / county / COG)
- Private developers for development activities planned or ongoing
- School officials

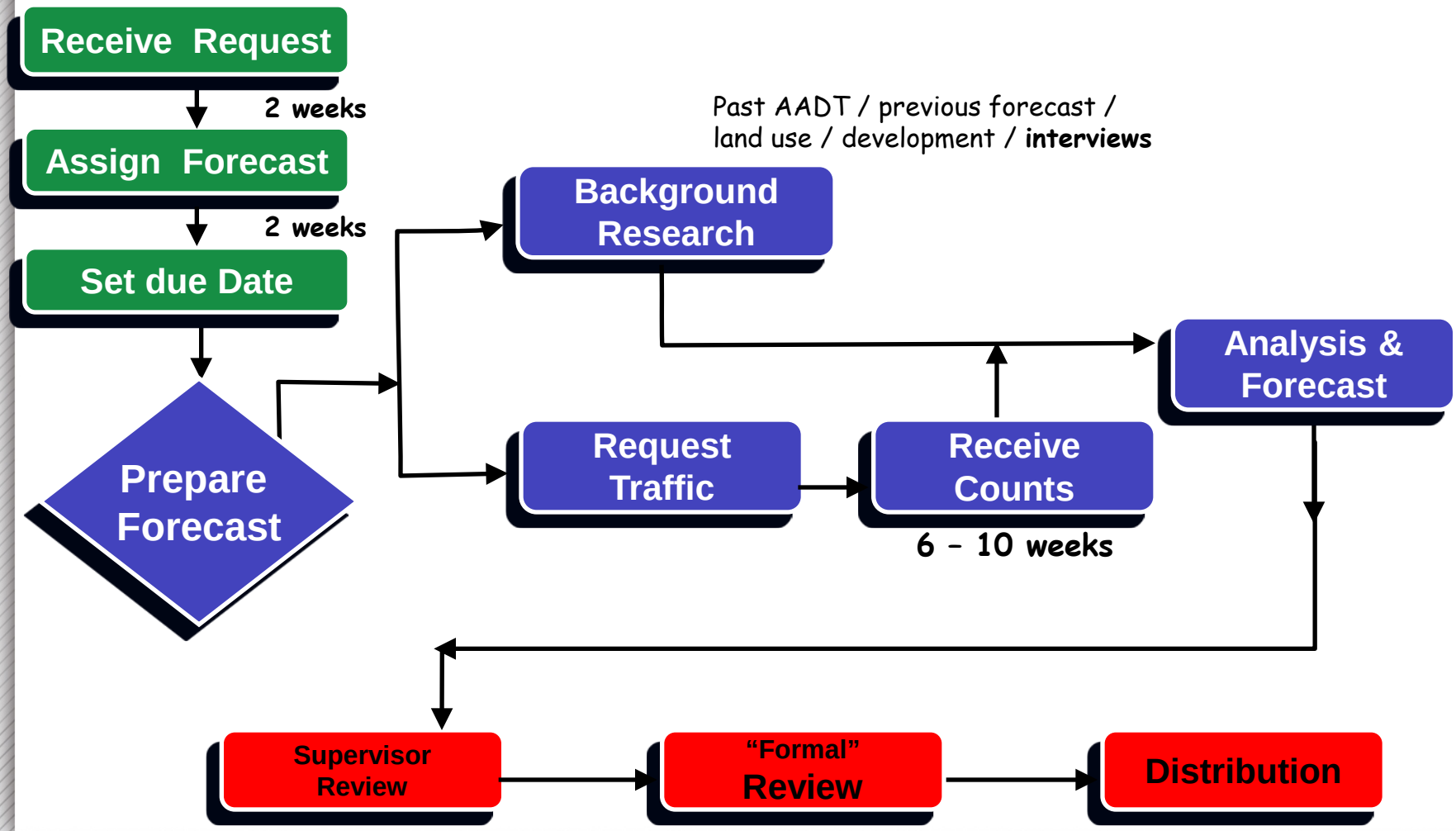
Traffic Forecast – RPO Involvement

Provide Input

We are seeking information on issues that directly or indirectly affect travel demand on roadway facilities in the study areas. This includes, but is not limited to:

- Planning and zoning provisions that encourage or constrain growth.
- Public works projects funded (i.e. water / sewer extensions).
- Ongoing or recently completed development projects.
- Examples of major projects under current consideration.
- Discussion of anecdotal information regarding traffic operations.
- Anything that affects buses or trucks.

Traffic Forecast - Process



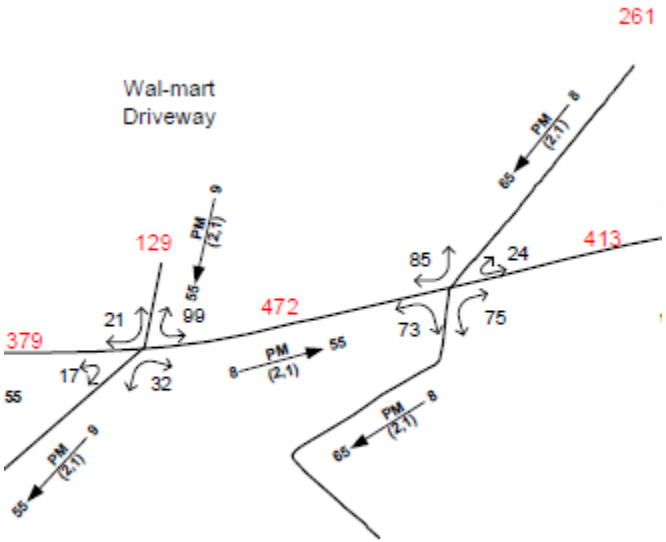
Traffic Forecast - Process

TIMELINE:

- Simple Project *(0 - 3 intersections) - up to 4 Months*
- Moderate Project *(5 - 8 intersections, typically widening) - up to 5 Months*
- Large Project *(> 10 intersections; often new location; or multiple scenarios) - up to 6 months*
- Complex Project *(major Bypass; high number of intersections and / or multiple scenarios) up to 7 Months*

Traffic Forecast - Data

What information is provided?



- AADT estimates *(daily volume in hundreds)*.
- Quadrant turning movements.
- Design Factors.
  - K – estimate of percentage of daily traffic in the peak hour. Typically assumed to be 30th highest hour.
  - D – percent in the peak direction in peak hour.
  - Truck percentages – on a daily basis.

Traffic Forecast - Data

What scenarios are provided?

Base Year No-Build (BY NB)

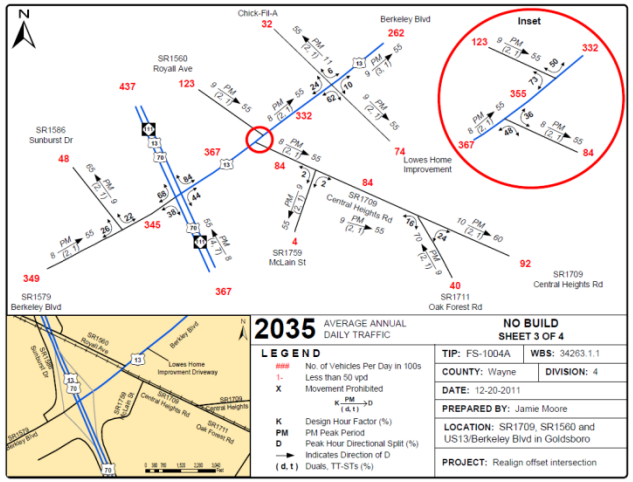
Currently 2013 without the subject project.

Future Year Build (FY Build)

Typically2035 or 2040 WITH the subject project.

Base Year Build; Future Year No-Build

Provided as needed.



Other years, such as opening year are not provided – they may be interpolated by Requester.

Traffic Forecast - Assumptions

Future Land Use

- In an MPO – assumes the growth pattern adopted by the MPO (and therefore local governments) as shown in their transportation model.
- ***In an RPO – if a transportation model is available, we use those assumptions. Otherwise we look at state population projections, local land use plans, development, past trends and local input.***

Future transportation networks are "fiscally constrained"

- In an MPO – assumes as built those projects listed as funded in the MPO's LRTP (Long Range Transportation Plan).
- ***In an RPO – assumes as built those projects listed as having some construction funds in the State's TIP.***

These assumptions keep forecasting on a consistent basis and can be defended in court.

Traffic Forecast - Distribution

Requester Receives e-mail with cover letter and diagrams, followed up with a hard copy.

CC list Receives e-mail with cover letter and diagrams.

- Jay Bennett, PE, Roadway Design
- James Dunlop, PE, Congestion Management
- Don Chen, PE, Pavement Management Unit

Project Store Cover letter, diagrams and report are stored in LongRangePlanning / Forecast folder.

TPB Hardcopy Files If not in Project Store, contact Forecast Group Supervisor for a copy.

Long term - include as layer on SDV?

Questions?