NCTCOG Departments (9)

Executive Director’s Office
Agency Administration
Community Services
Emergency Preparedness
Environment And Development
Public Affairs
Research And Information Resources
Transportation (Also Serves As The MPO)
Workforce Development
Transportation Department

Administration (Michael Morris And Dan Kessler)

Air Quality Planning And Operations (Chris Klaus)

Information Systems (Ken Cervenka)

Strategic Initiatives And Community Outreach (Mike Sims)

Transportation Planning (Dan Lamers)

Transportation Programming And Operations (Dan Rocha)
Information Systems

Development, Maintenance, and Support of Travel Demand Forecasting Tools

Transportation Data Management (Including Web-Based Activities And GIS Support)

Vehicle Operations (e.g., Traffic Simulation)
So Who Is Ken Cervenka?

M.S. in Civil Engineering, UT-Austin (1979)

Professional Engineer (Texas) And AICP Since 1992

NCTCOG, 1979-1981

UT-Austin Center For Transportation Research, 1982-1984

Dallas-Based Transportation Engineering Firm, 1985-1992

NCTCOG, 1993-to-Present
Modeling Environment

NCTCOG-Developed FORTRAN Programs (Mainframe)
  MOBILE5A Emissions Analysis
  Latest Mobility Plan Update
  For Legacy Applications

TRANPLAN (PC)
  Subarea Traffic Modeling (Legacy Applications)

TransCAD (PC-Windows)
  MOBILE6 Emissions Analysis
  Future 2030 Mobility Plan
  All New Travel Modeling Activities
Four-step TRANSCAD Modeling Process

1. **TRIP GENERATION**
   - **ROADWAY NETWORK**
   - **ROADWAY SKIMS**
   - **TRANSIT SKIMS**

2. **TRIP DISTRIBUTION**
   - **MODE CHOICE**
   - **ROADWAY ASSIGNMENT**

3. **TRAVEL TIME CONVERGENCE**
   - **ZONE LAYER**
   - **TRANSIT ASSIGNMENT**

4. **INPUT**
   - **PROCESS**
   - **DECISION**

**DEMOGRAPHIC INFORMATION**
TRANSCAD Model Size

4874 Zones Retained For ALL Modeling Steps
  From Trip Generation To Traffic/Transit Assignment
  Number Of Zone-To-Zone Pairs = 23.8 Million

Year 2025:  27,000 Roadway Links
  + 9,600 Zone Connectors
  Over 36,000 Coded Links
  22,000 Network Nodes

2025 Transit
  410 Coded One-Way Bus Lines And 36 Rail Lines
  14,500 Bus Stops And 171 Rail Stations
Total Population Within The Dallas – Fort Worth Metropolitan Planning Area

- Previous Plan Demographics (Mobility 2025 Update)
  - 1995: 4,848,237
  - 2000: 5,650,339
  - 2005: 6,671,351
- New Plan Demographics (Mobility 2025, 2004 Update)
  - 2010: 7,952,070
  - 2015: 8,503,146

Current total population within the Dallas – Fort Worth Metropolitan Planning Area is approximately 8,503,146 people, according to the new plan demographics update.
What Happens Next For NCTCOG

Training Of “TransCAD Model Application Champions”
  NCTCOG Staff
  DART Transit Staff
  Other Agencies (???)
  Certification Of Consultants (???)

Prepare Additional Roadway/Transit “Supply And Demand”
Performance Reports

Model Documentation
  Include The “What” As Well As The “Why”
Recommendations For Model Applications Work At NCTCOG

Every Modeling Study Needs “Direct Oversight” By A TransCAD Model Applications Champion
-- So, What Is A Champion?

Has A Good Understanding Of GIS And Travel Model Theory
      Maybe We Should Give An Oral Certification Test!

Is Very “Hands-On” Experienced With TransCAD
      We Can Test People On This, Too!

…And (Ideally) Spends Over 70% Of His/Her Time On Model Applications Work
What Happens Next (Cont.)

Greater Focus On Underlying Information System

Improvements/Updates To Modeling Procedures
   LOGSUM Consistencies
   Destination Choice Instead Of Gravity Model Trip Distribution
   Expansion Of Modeled Area
   Sensitivity Tests Of Person Tour (e.g., Activity-Based) Models
   New Travel Surveys In 2006

Coordination With TxDOT Statewide Analysis Model

Traffic Microsimulation For Operations Analysis