

SECTION 3

About Telecommunications BusinessScores 4.0

What is Telecommunications BusinessScores 4.0?

Telecommunication BusinessScores 4.0 is the fourth generation of a unique data product providing usage estimates of the key telecommunication services for every record in the D&B database of approximately 13 million business establishments, including some 8 million buildings. These unique estimates are derived from TNS Telecoms' (TNST) proprietary primary data, gathered from multiple waves of its quarterly *BusinessWave*™ telephone survey totaling over 30,000 business firms (see *Appendix 2 – “The BusinessWave Survey”*). The original, core variables in Telecommunications BusinessScores 4.0 are designed to cover the major sources of business telecommunication spending, product presence and usage, and other geographical and building attributes, at the *individual business location*, and contain the following types information:

- Point & Census Geocodes
- LATA Code
- V&H Coordinates
- CDP and CSD FIPS Codes
- MSA/CMSA/PMSA Code
- Urban/Rural Flag
- CPL Code
- Total firms in building
- Total building Local Bill
- Total bldg. Toll Bill
- Total bldg. Toll minutes
- Total building access lines
- ILEC Code
- Number of Working Telephone Numbers
- CLLI-11 & CLLI-8 Codes
- Total Communications Bill
- Total Wireline Bill (by All, Voice, & Data applications)
- Total Wireless Bill
- Total Local Phone Bill
- Total Toll Bill (by both intraLATA & interLATA)
- Total Toll Minutes (by both intraLATA & interLATA)
- “1-800” Bill & Service Probability
- International Calling Prob.
- Centrex Probability
- PBX Probability
- Other types Probability
- Distance to the C.O.
- Flags by Data Services type
- Consolidates and Site Broadband Demand
- Business Internet Access Probability
- Probability of Hi-Speed Internet Access
- E-commerce Utilization for Selling & Purchasing
- Probability of Data Lines
- Probability of xDSL Lines
- Probability of T-1 Lines
- Probability of T-3 Lines
- Switched Bus. Access Lines
- Probability of Special Access Business Lines
- Probability of Private Lines

The “types” of Telecommunications BusinessScores can be broken out into six distinct categories:

1. **Demand Estimates:** contain information on volumetric estimates of telco-related demand, such as estimated local phone bill, intra and interLATA toll bill, wireless bill, switched access line equivalents, etc.
2. **Need Indicators:** provide insights on the probabilities of specific types of services being in-place at the firm, such as Centrex systems, PBX systems, private lines, etc.

3. **“CPL” Building Data:** include the **CPL Code** that identifies the unique building, as well as aggregations at the building level (based on summing-up the contributions of all the tenants in the building), such as total firms, total spending, total lines, etc.
4. **Bandwidth Measures:** contain the “Broadband Demand” suite (the Consolidated Broadband Demand and Site Broadband Demand scores), and other related scores, such as the “Data Services Range Flag” variables.
5. **Central Office & Wire Centers:** provide information on the ILEC Central Office and Wire Center associated with the firm via TNST’s proprietary assignment methodology and via more traditional GIS-based Wire Center boundary assignments, and the distances between the firm and these C.O.s.
6. **Geographic Identifiers:** includes Telco geographies associated with the firm, such as ILEC Service Area Code and LATA Code, as well as the most accurately assignable values for Census Geocode (down to the Census block) and point geocoordinates (in latitude/longitude).

Having this many different categories and variety of Telecommunications BusinessScores data elements provides users with the ability to address the widest range of telecommunications applications available, at the greatest degree of consistency and accuracy available for modeled data.

Why were Telecommunications BusinessScores built?

Ongoing deregulation of the telecommunications industry, the rapid pace of technological innovation and development in the industry, and the volatile corporate changes happening even to the largest players in the telecommunications industry, are creating a highly competitive and dynamic market. Traditional telecommunication providers are looking to expand and protect their customer base and need to identify their best customers, while targeting new prospects that are like them. New providers of telecommunications products and services often have offerings that are best suited to a select “niche” of all firms, and are trying to grow their share of the market at the expense of the established incumbents. The Telecommunications BusinessScores were built for firms in or associated with the entire communications industry to satisfy a growing demand for detailed telecommunications descriptors and usage estimates by *individual firm* – or by *individual building* – based on the company’s definition of exactly who constitutes the actual telecom end “customer”.

The Telecommunications BusinessScores are designed to allow telecommunication product and service providers to design efficient sales and marketing campaigns by enabling these firms to select their target customers, using direct and relevant criteria. For example, a telecommunication provider may have designed an offering that is likely going to be of interest to those firms who have a PBX system. Instead of randomly marketing to all firms, or selecting firms based on a simple criterion such as number of employees, the service can now directly select only those firms that have a high probability of actually having a PBX system. The Telecommunication BusinessScores are designed to allow for precise targeting of customer or

prospect lists for any telecommunication product or service provider, or for any other firm with a need to have both strategic and tactical estimates of detailed telecommunications-related information, at a detailed or aggregate level.

Who built them, and what are they based on?

The modelers and industry experts at TNST built the first generation of syndicated Telecommunications BusinessScores in late 1995, as part of a strategic alliance formed with the Dun & Bradstreet Corporation. The first commercial offering of Telecommunications BusinessScores was made through D&B in 1996 under the name "Telecom Demand Estimators".

The earlier generations of these models were created through the use of two main sources of primary, proprietary data. The first source was actual usage data from an integrated billing database of over 880,000 firms from an industry consortium called the *National Telecommunications Demand Study* (or "NDTS" – made up of representatives from all the major local phone companies – which was administered by PNR and Associates, the predecessor to TNST). The second source was PNR's *BusinessWave* survey of 3,500 businesses (which was initially run as an annual, diary-recall survey from a pre-recruited panel), then linked to Dun & Bradstreet firmographic data and offered as syndicated, value-added data elements to D&B's national D-U-N-S file.

Several years later, PNR and Associates was absorbed into INDETEC International, Inc., a San Diego-based consulting firm that specialized in cost modeling and expert testimony for state telecommunications regulatory proceedings. In November 1999, INDETEC International was acquired by Taylor Nelson Sofres, a UK-based corporation that is the fourth largest marketing research company in the world, and currently does business in the United States under the corporate business sector name of "TNS Telecoms", or "TNST".

Along with the evolution of TNST, the BusinessWave survey evolved as well, growing and changing, until it has reached its current state: a 45-minute, guided telephone interview from a continually changing, nationally representative sample of some 3500 business firms per quarter. The content and size of the BusinessWave survey has grown so large that TNST has now been able, by aggregating the most recent eight quarters of the survey, to move to the BusinessWave data as *the complete and single underlying source* for all Telecommunications BusinessScores modeling content.

Each year, TNST regenerates the core models underlying the Telecommunications BusinessScores data elements, based on the most recent multi-wave set of *BusinessWave* data (comprised of approximately 30,000+ records), and also refreshes the entire D&B D-U-N-S file each month with the most current data elements. TNST has also automated the process of creating and validating the models to the point where it may be possible, in the near future, to completely re-build and update *all* of the models (using the latest eight quarters of aggregated BusinessWave data) every 90 days, to ensure that users are always working with the most recent view of the current telecommunications market.

When were they built?

The vintage of the data for the current 4.0 version of BusinessScores ranges from year 2001 to 2003, depending on the specific release. The models were initially developed in the first and second quarters of 2003, from the most recent 8 quarterly “waves” of the *BusinessWave* survey data at the time. This most recent version of the entire product will be rolled out in the third quarter of 2003. TNST is also greatly expanding the quantity and scope of the Telecommunications BusinessScores data elements, to keep pace with the demands of the telecom industry’s increasingly sophisticated requirements, so there may additional variables released in the near future as optional supplements to the data elements described here.

How were they built?

The *BusinessWave* data records were statistically analyzed to develop estimates for all firms on the D&B database. TNST takes the approach that, rather than imbedding any subjective assumptions in the models themselves, the models should allow the data to speak for itself by reflecting actual behavior, based on real-world data at the firm level. TNST uses an advanced and proprietary statistical modeling processes to create the *BusinessScores* underlying models, so that every record in the D&B database that goes through the scoring process receives a set of BusinessScores data elements, irrespective of the completeness of the D&B firmographic information.

Two of the later enhancements used in the most recent version of the Telecommunications BusinessScores modeling process involve:

- 1) Transitioning to a view of a firm’s “access lines” in terms of “access line equivalents” (a “line equivalent” being a 56 Kbyte slice of digital switch bandwidth); and,
- 2) Segmenting the business firms into four distinct types of “access line equivalents”, which consist of:
 - “Non-PBX” (POTS & Centrex) lines.
 - “PBX” lines using “Regular” trunks.
 - “PBX” lines using “T1-based” trunks.
 - “PBX” lines using “T3-based” trunks.

Both of these enhancements capture the effects of the different options that can be used to address a firm’s overall communications requirements using new technologies, the extensive business use of the internet and the growth of the demand for bandwidth, and the convergence of voice and data traffic requirements through the use of advanced digital switches.

More detailed information on the Telecommunications BusinessScores modeling methodology, and how they are applied to the D&B national file appears in *Section 4: “The Modeling and Scoring Process”*.