A Tour of My Database

by Morris D. Carey, Jr.

Each of us has a preconceived idea of what an estimating database should be. I have preached for years that the databases that come packaged with most estimating systems aren't the answer to solving your estimating problems. I have yet to review a program that doesn't work well, but I still haven't seen a database (at any price) that works better than the one I created for myself. Estimating is as personal as the estimator.

The database I use probably will be no more useful to you than any other, but I thought you might like to have a look at what works for one company. And I thought you might like to know what I was thinking when I set it up.

My approach to setting up my original database was quite simple. I figured that the easiest way to list items was in the order that I usually performed the work. I began with architecture and ended with final janitorial. The tough part was everything else in between.

I had become familiar with the Construction Specifications Institute (CSI) numbering system during my tenure as a framing subcontractor, but the language was too formal for use with the layperson. Because I was doing remodeling estimates for the general public, I wanted to keep construction terminology to a minimum, and I wanted it to be easy for my customers to understand.

Divisions

First, I laid out the general categories (divisions) of work that I did in my business. What I ended up with is set out in Table 1, below. Plumbing, Heat & Sheetmetal, and Electrical are in order of construction with each other, but aren't exactly in order of construction with the rest of my divisions. Mechanical and electrical rough-in, top-out, and finish happen in so many different phases of the work that I decided to put them in the middle of my list. Why not?

Doors & Millwork is another division that's out of construction order. I wanted to keep this one as close to Carpentry Labor as possible, but in a separate division, for two reasons: First, I wanted separate subtotals for labor and material, and this was the only way I could do that in my old estimating system. Second, even though "install baseboard" is a line item I include in the division Carpentry Labor (under the subdivision "Install Siding & Trim") and "supply baseboard" is a line item under Doors & Millwork, they both use the same takeoff quantity.

When going through hoards of estimating takeoff data, I found it wise to keep similar types of work that used the same takeoff quantity as close together as possible. This helped me not forget what the takeoff amount for the first item was before I got to the next one.

The advantage of computers here is that your list of items can be a lot longer because you are able to sort through data so much faster. The disadvantage is that with so much data it can sometimes be difficult to remember the takeoff quantity you assigned to a like item earlier in the estimate. Even systems that have calculators with sev-

Table 1. Divisions

1	PLANS & PERMITS	16	PLUMBING
2	TEMP FACILITIES	17	HEAT & SHEETMETAL
3	DEMOLITION	18	ELECTRICAL
4	EXCAVATION	19	PAINTING
5	CONCRETE	20	CABINETRY
6	CARPENTRY LABOR	21	COUNTERTOPS
7	LUMBER/HARDWARE	22	CERAMIC TILE
8	ROOF COVER	23	APPLIANCES
9	WINDOW/SGD/SKYLIT	24	FINISH FLOORING
10	DOORS & MILLWORK	25	MIRROR/SHWR/WRDRB
11	STUCCO	26	CLEANUP
12	MASONRY	27	SUPERVISION
13	METAL FIREPLACE	28	CONTINGENCY
14	INSULATION	29	OVERHEAD
15	SHEETROCK	30	PROFITS

Table 2. Divisions With Subdivisions

1 PLANS & PERMITS
  Architecture
  Testing & Engineering
  Permits & Fees
2 TEMP FACILITIES
  Owner-Provided Items
  Temp Support & Equip
3 DEMOLITION
  Demo General
  Demo Flooring
  Demo SR & Insulation
  Demo Exterior
4 EXCAVATION
  Dig Footings & Piers
  Dig Subgrade/Subarea
5 CONCRETE
  Concrete Labor
  Concrete Material
6 CARPENTRY LABOR
  Floor/Wall Carpentry
  Roof Carpentry
  Inst Door/Wdo/Vent
  Inst Siding & Trim
  Inst Backing/Blk'ng
  Prepaint Finish Labor
  Afterpaint Finish
7 LUMBER/HARDWARE
  Framing Material
  Siding/Trim Material
  Garage Door/Opener
8 ROOF COVER
  Premium Cedar Shakes
  Composition Shingles
  Built-up Roofing
  Tile Roofing
  Roof Flashings
  Waterproof Deck Cover
  Ornamental Iron
9 WINDOW/SGD/SKYLIT

  Supply Aluminum Wdos
  Supply Alum. Patio Dr
  Supply Alum. Skylight
  Supply Wood Windows
  Velux Roof Windows
10 DOORS & MILLWORK
  1 3/4" Prehung Ext. Dr
  1 3/8" Prehung Int. Dr
  1 1/8" Bifold Door
  Specialty Doors
  Door Hardware
  Jamb/Case/Stool/Base
  Crwn/Stair/Nose/Mntl
  Paint Grade Mantles
11 STUCCO
  S/I 7/8" Stucco
12 MASONRY
  S/I Masonry/Veneers
13 METAL FIREPLACE
  S/I Metal Fireplace
14 INSULATION
  S/I Insulation
15 SHEETROCK
  S/I Sheetrock
16 PLUMBING
  Plumbing Labor
  Kitchen Sinks
  Wet Bar Sinks
  Lavatories
  Tubs
  Pan/Shower/Tub & Shower
  Toilet
  Bath Accessories
  Faucets & Accessory
  Water Heater/Laundry
17 HEAT & SHEETMETAL
  S/I Heat & Sheetmetal
18 ELECTRICAL
  Electrical Wiring

  Electrical Fixtures
19 PAINTING
  Interior Painting
  Exterior Painting
  Wallpapering
20 CABINETRY
  Supply Cabinets
  Repairs & Refacing
21 COUNTERTOPS
  S/I Plastic Laminate
  S/I Corian
  S/I Cultured Marble
  S/I Cultured Onyx
22 CERAMIC TILE
  S/I Ceramic Tile
  S/I Glass Block
  S/I Marble Tile
  S/I Marble Slab
  S/I Granite Slab
23 APPLIANCES
  S/I Appliances
24 FINISH FLOORING
  S/I Lino/Carpet
  S/I Prefinish Hrdwd
  S/I Custom Hrdwd. Flr
25 MIRROR/SHWR/WRDRB
  S/I Mirrors
  S/I Shower Enclosure
  S/I Mir Bypass/Bifld
26 CLEANUP
  Cleanup Labor
27 SUPERVISION
  Supervision Labor
28 CONTINGENCY
  Contingency
29 OVERHEAD
  Overhead
30 PROFIT
  Profit

eral memories don't solve this problem.

Temp Facilities (temporary facilities), Window/Sgd/Skylit (windows/sliding glass doors/skylights), and Mirror/Shwr/Wrdrb (mirrors/shower enclosures/vinyl & mirrored wardrobes) were all abbreviated in order to fit in the space allowed by my estimating program.

You may wonder why I grouped mirrors and vinyl wardrobes into the same division. It's simple, really—the contractor who supplies and installs my mirrors and shower enclosures also supplies and installs all my vinyl and mirrored bypass wardrobe doors. The computer had nothing to do with it.

Subdivisions

My current estimating software allows me the luxury of up to ten subtotals per division. The company that wrote my program refers to these divisions within divisions as subdivisions. Makes sense to me! Each subdivision is capable of holding 100 items. Hence, there are three possible levels of pricing—division level, subdivision level, item level. Neat, huh?

You can see my division list again, in Table 2 (facing page), but with the addition of subdivisions. I used the first subdivision of Division 2 for "Owner-Provided Items." This subdivision is used to list the items that the owner will provide on the job (toilet, power, water, etc.).

I used the last two subdivisions of division 6 for "Prepaint Finish Labor" and "Finish Afterpaint Carpentry." This is my method of separating finish

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carpentry from rough carpentry, and further separating finish carpentry that happens before painting from finish carpentry that occurs later.

I used the last subdivision of division 7 for "Garage Door & Opener," not because I purchase them from the lumberyard, but because my estimating program only allows for 30 divisions and I couldn't think of any other place to put it. As a remodeler, I don't often need to use this category anyway.

Divisions 11-15, 17, 23, and 26-30 have only one subdivision each. That's because our estimating system requires items to be in a subdivision rather than in a division even if there is only one item in the entire division. That's kind of annoying, but you can't have everything.

The ultimate criteria I use for determining which items go into a division is what I want to see included in a given division subtotal price. The same holds true for determining the items that will be placed in given subdivisions as well.

Line Items

When creating and assembling items into an estimating program database, it's a smart idea to insert the information into the system the same way you want to see it presented in the finished product.

For example, if you feel that you would like to see "Install Mudsill" before "Frame Roof" in the estimate

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Table 3. Sample Subdivisions With Line Items

11 STUCCO
S/I 7/8" Stucco
    Min Stucco Work <14 sy   ea
    S/I Stucco 1st Floor   lf
    S/I Stucco 2nd Floor   lf
    S/I Stucco Gable End   lf
    S/I Stucco Misc Area   sf

12 MASONRY
S/I Masonry/Veneers
    Min Masonry work <33 sf   ea
    S/I 5' x 4' F.P. Face   ea
    S/I 5' x 8' F.P. Face   ea
    S/I 5' x 16" Flsh Hearth   ea
    S/I 5' x 16" x 12"H Hearth   ea
    S/I Masonry   sf
      w/New Brick   ea
      w/Mfg Used Brick   ea
      w/Slump Stone   ea

13 METAL FIREPLACE
S/I Metal Fireplace
    Install Metal Fireplace   ea
    Supply Fireplace Flue   lf
      Xtra for offsets   ea
  @ 36" Superior RD3800 FP   ea
  @ 42" Superior HCE4550 FP   ea
    Xtra for Blower   ea
    Xtra for Brass Trim   ea

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printout, then that's the order you should follow when entering and numbering the items as they are placed into the system. Computers have some pretty funny limitations that way—you get results only from what you put in.

Table 3 (above) is a partial list of my divisions and subdivisions with the addition of Line Items.

I set up the items in division 11 to cover the situations we deal with in our company. Yours may be different, but here's how we do it.

Min Stucco Work <14 sy ea. I use this item when there is less than (<) 14 square yards of stucco on the job. I always use 1 each.

S/I Stucco 1st Floor lf. I use this item to take off, "supply and install" stucco at a typical first-floor wall. We usually see stucco at 9 feet high in these situations, and for that reason each linear foot we measure ends up equaling one square yard of coverage. Naturally, this isn't absolutely always the case, but it works 98% of the time.

S/I Stucco 2nd Floor lf. This item is used at the second floor level, because we usually see 10 feet in height in our construction (we use 14 inches between floor trusses). You might not need both first and second floor items.

S/I Stucco Gable End lf. Our system calculates 2.5 square feet of stucco for each linear foot taken off from the plans. We never have to go to an elevation to take off stucco—and it works great. The whole idea of computerized estimating is simplicity.

S/I Stucco Misc Area sf. This line item is used to cover soffits, ceilings, and other areas that can't be taken off by linear foot.

Next month I will continue to explain the other item examples listed above. I also have some great news on CAD and accounting software for Apple MacIntosh users. ■

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