

**AUSTRALIAN BUREAU OF STATISTICS**  
**BUILDING AND CONSTRUCTION - INSTRUCTIONS for Buildings Data Cubes in SuperTABLE format**

This document contains instructions to assist in extracting data from the Buildings Data Cubes released in SuperTABLE format. Specific information relating to these data cubes are provided as well as instructions and examples on how to extract data from the data cubes.

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## **What is SuperTABLE?**

SuperTABLE is a specialised cross tabulation software system developed by Space-Time Research that provides access to very large databases and allows data to be summarised and presented in a simple table format. The SuperTABLE software is free, and can be downloaded from the Space-Time Research Web site at <http://www.str.com.au>

SuperTABLE allows fields to be quickly selected, parameters set and data retrieved using a "drag and drop" system. Tables can be altered by adding or deleting rows and columns, formatting headings and adding totals to make data more readable.

## **Specific information regarding Buildings Data Cubes using SuperTABLE**

### **File contents**

#### *Building Approvals*

australia.srd contains state level data for all states/territories for the latest 37 months. state\_yyyy.srd (where yyyy is the financial year, e.g. 0102 is data for July 2001 to June 2002) contains Statistical Local Area data for that state/territory for each month in the relevant year.

#### *Building Activity*

activity.srd contains state level data from September quarter 2001.

### **Classifications - australia.srd**

|                     |  |
|---------------------|--|
| State/Territory     | all States & Territories   |
| Reference Month     | monthly (latest 37 months)   |
| Sector of Ownership | private, public  |
| Type of Building    | houses<br>other residential<br>residential<br>non-residential<br>non-house<br>total building |
| Type of Work        | new<br>alterations & additions<br>(incl. conversions and refurbishments)<br>total work       |
| Data Items          | value of approval (\$m)<br>number of dwelling units (no.)                                    |

### **Classifications - state\_yyyy.srd**

|                           |  |
|---------------------------|--|
| Geographic Classification | SLA, SSD, SD and State   |
| Reference Month           | monthly (yyyy refers to the financial year)  |
| Sector of Ownership       | private, public  |
| Type of Building          | houses<br>other residential<br>residential<br>non-residential<br>total building        |
| Type of Work              | new<br>alterations & additions<br>(incl. conversions and refurbishments)<br>total work |
| Data Items                | value of approval (\$000's)<br>number of dwelling units (no.)                          |

## **Classifications - activity.srd**

|                     |   |
|---------------------|---|
| State/Territory     | all states and territories  |
| Reference quarter   | quarterly (September 2001 to current)   |
| Sector of ownership | private, public   |
| Type of building    | total houses<br>total other residential building<br>total residential building<br>retail and wholesale trade buildings<br>transport buildings<br>offices<br>other commercial buildings n.e.c<br>factories and other secondary production buildings<br>warehouses (excluding produce storage)<br>agricultural and aquacultural buildings<br>other industrial buildings n.e.c.<br>educational<br>religious<br>aged care facilities<br>health facilities (non-aged care medical services)<br>entertainment and recreation<br>accommodation<br>other non-residential buildings n.e.c.<br>total non-residential building<br>total building |
| Type of work        | new<br>total alterations and additions<br>(incl. refurbishment and conversion)  |
| Data items          | value of work commenced (\$m)<br>number of dwelling units commenced (no.)<br>value of work completed (\$m)<br>number of dwelling units completed (no.)<br>value of work done (\$m)  |

## **Checking your data**

The validation table is an Excel spreadsheet containing data for checking purposes. It is VERY IMPORTANT to check totals from tables created against the validation table to ensure you have extracted correct data. This is due to overcounting that will occur in the table if you make no selection for some classifications:

1. For Type of Work and Type of Building, you MUST select the categories you require for these classifications, and drag the classification into the table. If you do not do this, records will be counted more than once because sub-totals and totals are included in these classifications, and all levels will be added together. Even if these classifications are not required in your table, overcounting will occur unless you select only the total category and drag this into the table.
2. Reference Month or Quarter should be brought into the table. Without this, all time periods will be added together.
3. The Statistical Local Area data cubes contain a hierarchical classification for Area, which means that the classification can have a number of levels e.g. State, Statistical Local Area. If nothing from this classification is included in the table, all levels will be added together. Make sure you at least include a total from this classification.

Best practice is to make sure all fields are selected and put into the table.

## **Definitions of Sub-totals and Totals**

### Type of Work

Total = New + Total alterations/additions (incl. refurb and conversion)

### Type of Building

Total residential building = Total houses + Total other residential building

Non-house building = Total other residential building + Total non-residential building

Total building = Total residential building + Total non-residential building

Total building = Total houses + Non-house building

## **Definition of Conversions etc.**

Conversions etc. = Total building - New houses - New other residential buildings

(This is how to calculate Conversions etc., but it is the equivalent of new non-residential buildings + alterations and additions for total building)

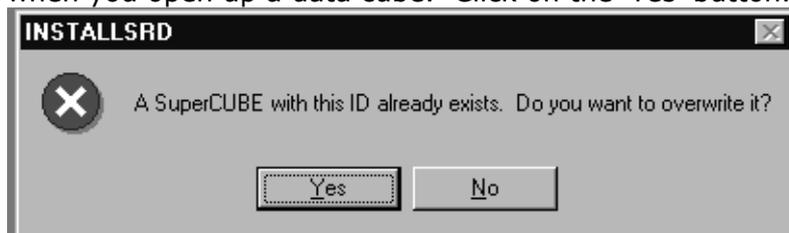
## **INSTRUCTIONS**

### **1. Getting Started**

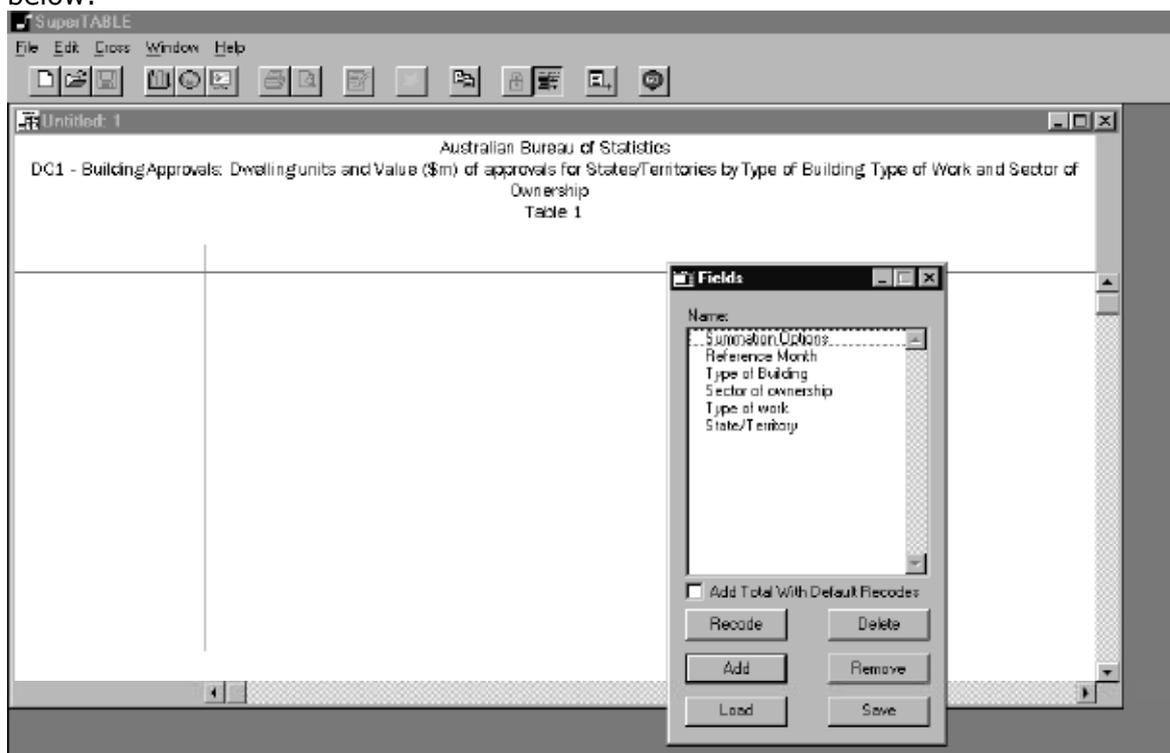
1. To detach .srd files attached in this e-mail, right click on the file and 'detach' into your preferred directory.

2. To open the file, double click on the attachments.

If you have already opened up a data cube on your computer, you may receive the error message below. This is a result of SuperTable automatically creating temporary files when you open up a data cube. Click on the 'Yes' button.



3. The file should now be open in SuperTABLE, and your screen should look like the one below:



or like the screen below if you have opened the activity.srd file. In this file we have displayed some of the data to help you get started.



Untitled: 1

## Australian Bureau of Statistics

## Building Activity

## Table 1

Reference Quarter and Res, Non-res, Total building by Summation Options

|                                | <i>Value of work<br/>commenced<br/>(\$m)</i> | <i>Number of<br/>dwelling units<br/>commenced<br/>(no)</i> | <i>Value of work<br/>completed<br/>(\$m)</i> | <i>Number of<br/>dwelling units<br/>completed<br/>(no)</i> | <i>Value of work<br/>done (\$m)</i> |
|--------------------------------|--|--|--|--|-------------------------------------|
| <b>September Quarter 2001</b>  |  |  |  |  |                                     |
| Houses                         | 4,930  | 27,559   | 3,921  | 20,924   | 4,365                               |
| Other residential building     | 2,270  | 12,893   | 1,652  | 10,097   | 1,687                               |
| Total residential building     | 7,200  | 40,452   | 5,574  | 31,021   | 6,052                               |
| Total non-residential building | 2,830  | 39   | 3,499  | 53   | 3,249                               |
| Total building                 | 10,030                                       | 40,492   | 9,073  | 31,074   | 9,301                               |
| <b>December Quarter 2001</b>   |  |  |  |  |                                     |
| Houses                         | 5,354  | 29,981   | 4,539  | 25,175   | 4,821                               |
| Other residential building     | 2,108  | 12,696   | 1,696  | 10,243   | 1,805                               |
| Total residential building     | 7,462  | 42,677   | 6,235  | 35,418   | 6,625                               |
| Total non-residential building | 3,351  | 29   | 3,117  | 69   | 3,396                               |
| Total building                 | 10,813                                       | 42,705   | 9,352  | 35,487   | 10,022                              |
| <b>March Quarter 2002</b>      |  |  |  |  |                                     |
| Houses                         | 4,928  | 27,035   | 3,996  | 22,294   | 4,535                               |
| Other residential building     | 1,930  | 11,446   | 1,403  | 8,314  | 1,786                               |
| Total residential building     | 6,859  | 38,481   | 5,399  | 30,608   | 6,322                               |
| Total non-residential building | 3,855  | 39   | 2,346  | 28   | 3,112                               |
| Total building                 | 10,713                                       | 38,519   | 7,745  | 30,636   | 9,433                               |
| <b>June Quarter 2002</b>       |  |  |  |  |                                     |
| Houses                         | 5,534  | 29,602   | 5,016  | 27,368   | 5,369                               |
| Other residential building     | 2,329  | 13,993   | 1,603  | 9,543  | 2,084                               |
| Total residential building     | 7,863  | 43,595   | 6,620  | 36,910   | 7,453                               |
| Total non-residential building | 3,529  | 56   | 3,470  | 20   | 3,448                               |
| Total building                 | 11,393                                       | 43,651   | 10,090                                       | 36,931   | 10,901                              |
| <b>September Quarter 2002</b>  |  |  |  |  |                                     |
| Houses                         | 6 154  | 31 913   | 4 913  | 25 681   | 5 739                               |

## **2. SuperTABLE Layout**

**Wafer** is at the top of the left hand corner of the table and enables a three dimensional table to be created.

**Row** is the horizontal part of the table. Fields can be dragged into the row to create the first part of the table.

**Column** is the vertical part of the table. Any field can be dragged into this part of the table.

**Data Cell** is the section of the table where all data are displayed. Before any variables are placed in a table, the data cell section may be denoted with a dash - the null value

**Icons** on the icon bar make it easier for users to access the more commonly used parts of SuperTABLE eg. Open, Field Box, Cross Tabulate

**Menu Bar** is above the icon bar and is made up of File, Edit, Cross, Window, Help. Help contains the **on-line SuperTABLE userguide**.

## **3. Menu Bar Functions**

**File - New** allows users to create a new table. Save and Open works the same way as all Microsoft products.

**Print** will print the current table open, selected cells only if any are selected or all cells if none are selected. If you select the print preview icon  you will need to reselect it to get back to your main page. Clicking on the cross of the print preview dialogue box closes your table.

**Exit** closes SuperTABLE

**Edit - Select all** selects all the cells in the table.

**Edit - Select Nothing** deselects any selected cells.

**Table Preferences** option allows changes to default settings.

**Zero string** is the symbol used for a 0 in the tables (default is -).

**Number format** is whether a comma is used when numbers are >999.

**Decimal Place** puts in the number of decimal places used.

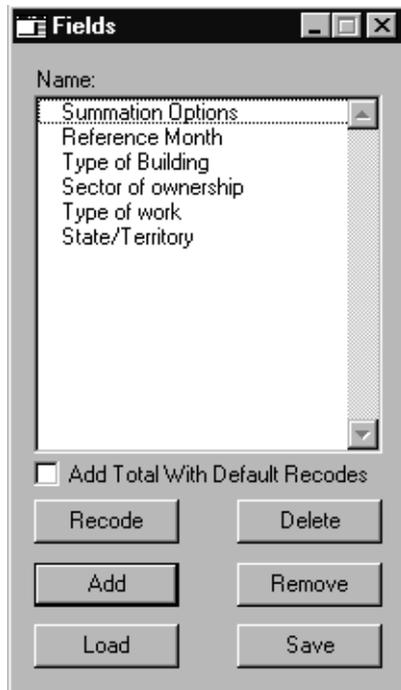
**Options** allows an indentation string to be entered for recode names in the Field Dialogue box.

**Cross** allows variables placed in the table to be tabulated and data stored in the database to be retrieved and displayed in the table.

#### **4. The Field Box**

To view the fields box, go to the menu bar and select Cross, then Fields.

The field box contains all fully defined fields in the database.



The **Delete** button will only delete recoded values - all other fields will remain in the field box.

The **Add** button adds fields to tables (as opposed to dragging and dropping them). Variables are placed in the table in order of column, row and wafer. If a field is already in a column and **Add** is clicked, the field will go to the row.

The **Remove** button removes fields from the table. You can also remove fields using the drag and drop approach.

The **Load** and **Save** buttons allow users to load or save recodes from the table for future use. If difficult recodes are to be used often in a range of tables then the Save and Load is handy. Otherwise it is not likely to be useful since recodes get saved with the table.

The first field in the field box is always the **Summation Options** which controls what is counted in a table. Each has a default 'cell' count which is an unweighted count of data which can be ignored for ABS data. Data can be dragged and dropped/or added into the wafer, column or rows.

#### **An example.**

Double click on 'Summation Options' in the field box and the following dialogue box appears. Select what you want to count in your table - number of dwellings units and/or value of approval (\$m). To do this, highlight one or both and press the 'singly' button, then OK. Then drag and drop or 'Add' the field to your table.

**Define Recode** [X]

Field: Summation Options

Recode Name: Summation Options [OK] [Cancel]

Field Values: Cells

Recode Values: Number of Dwelling Units (no)  
Value of Approval (\$m)

Use Names  
 Use Codes  
 Use Both

>> Singly >>  
 >> Group >>  
 >> Subitems >>  
 << Remove <<

Group Name: [ ]

Total Name: Total [Select All] [Add Total]

Footnote: [ ]

Both variables are added to your table.

| <i>Number of Dwelling Units (no)</i> | <i>Value of Approval (\$m)</i> |
|--------------------------------------|--------------------------------|
| 3,154,516                            | 706,367                        |

## 5. Creating Totals

The SuperTABLE Buildings Data Cubes are set up without totals for the variables State/Territory and Sector of Ownership. To create a table with Australia data or Total Ownership you will need to create totals for these variables.

### An example.

Creating an 'Australia' total. Double click on the State/territory field to open the dialogue box as shown below. In the field dialogue box, select all the states and territories in the left hand box. You can do this by holding down your mouse key and highlighting all fields. Then press the 'singly key'. All the fields should now appear in the right hand box. SuperTABLE automatically generates a total name in the lower right hand corner of the dialogue box. Rename this to Australia, then press 'add total' then OK. Back in the field box, either double click on 'states/territory' or press 'add' to add the fields to the table.

The same process applies to create a 'Total ownership' total.

Tip: to create a blank line before the total, place a space before the total name and then press 'enter'. Two thick parallel lines || appear before your total indicating a space. In the table there is a line between the components and the total.

The screenshot shows the 'Define Recode' dialog box. The 'Field: State/Territory' is selected. The 'Field Values' list is empty. The 'Recode Values' list contains the following items: New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania, Northern Territory, Australian Capital Territory, and Australia. The 'Australia' item is selected and highlighted with two thick parallel lines. The 'Total Name' field is set to 'Australia'. The 'Group Name' field is empty. The 'Footnote' field is empty. The 'OK' and 'Cancel' buttons are visible.

|                                     |           |
|-------------------------------------|-----------|
| <i>New South Wales</i>              | 965,130   |
| <i>Victoria</i>                     | 889,436   |
| <i>Queensland</i>                   | 635,052   |
| <i>South Australia</i>              | 175,084   |
| <i>Western Australia</i>            | 386,482   |
| <i>Tasmania</i>                     | 31,554    |
| <i>Northern Territory</i>           | 27,208    |
| <i>Australian Capital Territory</i> | 44,570    |
| <i>Australia</i>                    | 3,154,516 |

## 6. Recodes

A field item can be recoded by selecting the Recode button (or by double clicking on the field) . A recode is simply changing the original field and including values more specific to a need. If you want to preserve the original values, then within the recode box a different 'recode name' needs to be inserted. This is useful to create totals for the State/Territory and Sector of ownership variables which are then permanently saved with your table.

In activity.srd we have included some useful recodes to get you started. However, there is still the option of creating your own recodes.

### An example.

To create a recode containing private sector, public sector and total ownership. Double click on Sector of ownership to open the dialogue box as shown below. Highlight the public and private sector fields and press the 'Singly' button to move the fields to the right.

The image shows a 'Define Recode' dialog box with the following fields and controls:

- Field:** Sector of ownership
- Recode Name:** Sector of ownership
- Field Values:** (Empty list)
- Recode Values:** Private sector, Public sector
- Group Name:** (Empty text box)
- Total Name:** Total
- Footnote:** (Empty text box)
- Radio Buttons:** Use Names (selected), Use Codes, Use Both
- Buttons:** >> Singly >>, >> Group >>, >> Subitems >>, << Remove <<, Select All, Add Total, OK, Cancel

Press 'Add Total' and type in a recode name 'All sectors of ownership'. Then press 'OK'. Double click or 'ADD' this to your table.

**Define Recode** [X]

Field: Sector of ownership

Recode Name: All sectors of ownership [OK] [Cancel]

Field Values:

Use Names  
 Use Codes  
 Use Both

>> Singly >>  
 >> Group >>  
 >> Subitems >>  
 << Remove <<

Recode Values: Private sector  
Public sector  
Total

Group Name:

Total Name: Total [Select All] [Add Total]

Footnote:

The recode now appears in the field box and is saved with your table. Note: if you want to make changes to recodes, you will need to remove it from the table.

**Fields** [Min] [Max] [X]

Name:

- Summation Options
- Reference Month
- Type of Building
- ▼ Sector of ownership
  - All sectors of ownership
- Type of work
- State/Territory

Add Total With Default Recodes

[Recode] [Delete]  
 [Add] [Remove]  
 [Load] [Save]

## 7. Small Area Data

The state data cubes e.g. nsw\_0102.srd contains all geographic areas within the state down to the Statistical Local Area level. These are in the 'Geographical Classification (ASGC EDxxxx)' field. The areas are within a hierarchy that can be broken down as follows:

- state
- statistical divisions
- statistical sub-divisions
- statistical local areas

This is shown in the field as:

The screenshot shows a 'Define Recode' dialog box. The 'Field' is 'Geographical Classification (ASGC)'. The 'Recode Name' is 'Geographical Classification (ASGC Ed2001)'. The 'Field Values' list includes 'New South Wales', 'Sydney', and 'Inner Sydney' (selected). The 'Recode Values' list is empty. The 'Use Names' radio button is selected. Buttons include '>> Singly >>', '>> Group >>', '>> Subitems >>', '<< Remove <<', 'Group Name', 'Total Name', 'Select All', 'Add Total', and 'Footnote'.

If there are particular areas of interest to you, you can use the 'recode' function described above to create your own customised areas.

**Note:** as the variable is set up as a hierarchy, you will need to double click on each of the arrows if you want to select the small area data. For example, if you select New South Wales and add 'singly', you will only get the total for the state. If you want to produce a table with some Statistical Local Areas within Sydney, you will need to click on each of the levels of the hierarchies until they are completed expanded then select them by highlighting them; add 'singly' and 'OK'. To select all the smaller areas within a larger area, highlight the larger area in the Field Values box, and press the 'Subitems' button. For example, if you highlight New South Wales and press the 'Subitems' button, this will then give you the option of selecting all SDs, SSDs or SLAs within New South Wales by naming the first subitem in each of these three categories. Drag and drop the geographical classification or 'Add' to your table.

## **8. Nested Fields**

Nesting occurs when fields are placed within other fields. To do this, simply drag and drop or 'ADD' the field into the table.

|   |         |
|---|---------|
| <i>New</i>                              |         |
| <i>Total houses</i>                     | 331,106 |
| <i>Total other residential building</i> | 137,157 |
| <i>Total residential building</i>       | 468,263 |
| <i>Total non-residential building</i>   | 694     |
| <i>Total</i>                            |         |
| <i>Total houses</i>                     | 331,498 |
| <i>Total other residential building</i> | 144,902 |
| <i>Total residential building</i>       | 476,400 |
| <i>Total non-residential building</i>   | 1,052   |

## **9. Headings/Titles**

The header is located at the top of the page and is primarily made of default codes, however these can be deleted and replaced with more specific text. Double click on the header and a dialogue box with default codes appears. A list of default codes is included below.

A Spanner Label is an axis title spanning all the columns/rows in a table. To create a spanner label click on your right mouse button on the column or row variable then select spanner label. The label appears as shown below.

|   |           |
|---|-----------|
| Sector of ownership then Type of work                     |           |
| Private sector  | 3,058,964 |
| Public sector   | 95,552    |
| New   | 1,544,028 |
| Total alterations/additions (incl. refurb and conversion) | 33,230    |

### Default Header Codes

Within the header and footer sections of Supertable are a series of default codes. These default codes have been used to save the user having to type titles or table definitions themselves.

| <b>Prefix</b> | <b>Description</b>                 |
|---------------|------------------------------------|
| & a           | Cell Annotation                    |
| & c           | Derivation footnotes in the table  |
| & d           | Name of the database               |
| & e           | Standard annotation footnotes      |
| & f           | Total set of footnotes in database |
| & o           | Name of the organisation           |
| & r           | Confidentiality note applied       |
| & s           | Subject population/Summation       |
| & t           | Name of the table file             |
| & v           | List of fields used in the table   |

## **10. Calculating 'conversions etc.' in SuperTable**

1. Ensure that both 'type of building' and 'type of work' are in your table. This step will need to be the final step because if fields are moved in or out of the table, the calculation for 'conversions etc.' will be lost.

2. Right click on the last item in the relevant month (left hand column)

3. Select derivations - add axis derivation

4. For each time period, select the relevant categories to calculate the following formula:

**Total building - New houses - New other residential building**

**NB.** If you would like to add particular time periods, e.g. four quarters to create a financial year total, then you will need to create this recode before you bring reference period into the table.

5. Make sure that all of the items are from the same time period.

For example:

The screenshot shows the 'Define Derivation' dialog box. It has a title bar with a close button. The main area contains the following fields and controls:

- Adding a derivation for row axis**
- Derivation Label:** A text box containing 'Conversions etc.' with up and down arrow buttons.
- Calculation Order:** A text box, a 'Clear Order' button, and an 'Order Last' button.
- Decimal Places:** A text box and a checked 'Standard' checkbox.
- Derivation Expression:** A text box containing 'V15-V1-V2' with up and down arrow buttons.
- Buttons:** 'OK', 'Cancel', 'Check', and 'Add Reference'.
- Values:** A list box with an 'Add to Expression' button. The list contains:
  - V1: September Quarter 2001, New, Tota
  - V2: September Quarter 2001, New, Tota
  - V3: September Quarter 2001, New, Tota
  - V4: September Quarter 2001, New, Tota
  - V5: September Quarter 2001, New, Tota
  - V6: September Quarter 2001, Alterations
  - V7: September Quarter 2001, Alterations
  - V8: September Quarter 2001, Alterations
  - V9: September Quarter 2001, Alterations
- Operators:** Buttons for '+', '-', '\*', '/', and '%', and buttons for '(' and ')'.
- Mathematical Functions:** A dropdown menu showing 'Exp' and an 'Add' button.
- Statistical Functions:** A dropdown menu showing 'Median' and an 'Add' button.
- Footnote:** A text box with up and down arrow buttons.

6. Name the axis derivation 'Conversions etc.'

7. 'Conversions etc.' will appear below the last item in the relevant month.

8. Check your calculation using the data for new houses, new other residential buildings and total buildings.

**Attachment a - List of Controls**

| <b>Function</b>                    | <b>Controls</b>   |
|------------------------------------|---|
| Field Box                          | To view the field box, select the second last icon on the menu bar or go to "Cross / Fields".   |
| Recode                             | To recode a field, either double click on the field name in the field box, or select the field in the field box and hit the recode button.  |
| Nesting fields                     | To nest one field within another, place one field in the table then drag a second field over that first field and drop.   |
| Concatenating fields               | To concatenate two fields, place the first field in the table as normal. Then, select the second field in the field box, hold down the CTRL key then drag the field into the table, releasing just below the last field item but still within the table (make sure to release the mouse key before the CTRL button or fields will be nested).   |
| Header                             | To edit a header, double left mouse click on the header name and a text box will appear displaying the contents of the header.  |
| Spanner Label                      | To create a spanner label, right mouse click over any item in the row or column section, right mouse click and choose "Spanner Label". (A field name or item does not need to be selected for a spanner label to be created).   |
| Blank Axis Item / Blank Field Item | To create a blank axis or field item, select an item that you want the blank item to appear <u>under</u> , right mouse click over the selected item and choose "Derivations / Add Blank Field Item". To delete a blank item, select the item, right mouse click over the selected item and choose "Derivations / Delete". To edit the blank item, either double click over the item name or select the item, right mouse click and choose "Derivations / Edit". |
| Header fonts                       | Right mouse click over header and select "Font" then desired font.  |
| Item fonts                         | If only a single item is to have a changed font, select the item name in the table, right mouse click over the name and select "Item Font" then choose the desired font.  |
| Field fonts                        | If all items in a field are to be replaced with a new font, select one item within that field, right mouse click and select "Field Font". Change to the desired font. All items within the field will change accordingly.   |
| Table lines                        | Right mouse click in the data section of the table and select "Lines". Choose what parts of the table you would like to appear as an outline.   |
| Page Breaks                        | Select the field item that you would like the page break to be <u>above</u> . Right mouse click over this selected item and choose "Page Break / Before". (The "Logical" option is not very useful and simply places a page break where Supertable thinks is logical).  |
| Alignment                          | A field name or item does not need to be selected. Right mouse click in the row or column parts of the table and select "Format / Alignment". Choose whether you want the horizontal (row) or vertical (column) parts of the table aligned differently.   |
| Powers of Ten                      | Data does not need to be selected unless a specific row or column is to be changed and not the whole table. Right mouse click in the row, column or wafer, select "Format / Power of Ten". Choose the number that the data should be collapsed into and select either "All Rows" (depending where you initially clicked) or "Selected Rows".  |

| <b>Function</b>                 | <b>Controls</b>   |
|---------------------------------|---|
| Decimal Places                  | Data does not need to be selected unless a specific row or column is to be changed and not the whole table. Right mouse click in the row, column or wafer, select "Format / Decimal Places". Choose the number of decimal places data should be collapsed into and select either All Rows (depending where you initially clicked) or selected rows.   |
| Page Numbers                    | Page numbers can't be viewed on the page, however they can be printed. To print page numbers, go to "File / Page Setup" and check the "Print" box under "Page Numbers".   |
| Field Derivations               | To create a field derivation, select the item you would like the derivation to appear <u>under</u> , right mouse click over this item and choose "Derivations / Add Field Derivation". Type in the derivation within the "Derivation Expression" box. To delete a derivation, select the derivation name in the table, right mouse click and choose "Derivations / Delete". To edit a derivation, double click on the derivation name or select the derivation name, right mouse click and choose "Derivations / Edit". |
| Axis Derivations                | Same as Field Derivations (choose "Derivations / Add Axis Derivation").   |
| Auto-Axis Total                 | No need to select any field name or item. Right mouse click in the row or column part of the table where the total is to be placed. Select "Auto-Axis Total" and decide whether to place the total at the start or end of the table. Delete and Edit Auto-Axis totals in the same method as Field Derivations.  |
| Hide items                      | To hide a field item from view (hide not delete), select the field item to be deleted, right mouse click over the item name and choose "Hide / Field Item". The "Axis Item" option can be used also although tis main function is to hide axis items like derivations or totals.  |
| Reveal items                    | If a field item has been hidden, it can be recalled by right mouse clicking in the row or column part of the table and selecting "Reveal / Field Items". By choosing this option, any hidden field item will be recalled and it is not possible to only recall certain field items.   |
| Relative Standard Errors (RSEs) | No data needs to be selected. Right mouse click in the data section of the table, select "Annotate Cells / Standard Annotations". Check the box next to "Annotate RSE Cut-off Values". Note that not all Supercubes contain RSEs. RSEs are indicated by an asterisk (*) next to the affected cell.  |
| Suppress Zeros                  | No data needs to be selected. Right mouse click in the data section of the table and choose "Suppress Zeros". Indicate whether to suppress rows, columns or wafers which contain only zeros.  |

## **Attachment b - SuperTABLE Glossary**

**Column** - Vertical part of the table where fields can be stored.

**Companion Data** - Companion data is a section of ABS@ that contains all the publications with extra data available in Supertable. Multi dimensional datasets in Supertable that weren't available for publication can be found in the companion data section. Companion data can be accessed via the "Products and Information" link on the ABS@ front page.

**Concatenated Fields** - Concatenation of fields allows multiple fields to be placed side by side in a one dimensional field, grouping them as one. Two or more fields can be concatenated in the one field dimension of a table. Concatenated fields are inserted by selecting a field, holding down the CTRL key and using the drag and drop method.

**Cross tabulation** - Cross tabulation is the process of forming tables from specified data within a database. When variables are placed in the table, by selecting the "GO" button, fields are cross tabulated and data produced.

**Data Cell** - The data cells form the bulk of the table and these cells contain all values of fields after cross tabulation.

**Derivations** - A derivation is a calculation performed on fields in a table. There are two types of derivations in Supertable; Axis derivations and Field derivations. Field derivations are performed directly within a field and become part of that field i.e. totals or basic calculations. Axis derivations are only associated with table axes and are performed across different fields in the same dimension i.e. axis totals and percentages. Both field and axis derivations have similar uses in a table however, if a table is rearranged, field derivations will stay and axis derivations removed. Axis derivations allow you to use in a formula any field derivation in the same dimension whereas field derivations only ever contain the original fields in a table.

**Drag and Drop** - "Drag and Drop" refers to the process involved in creating tables. Simply highlight a field (select it with a left mouse click), press the left mouse button while the field is highlighted and drag the field across to the table, only releasing when the field is above the table. Drag and drop can be used instead of the buttons on the field box.

**Field** - A field is an element of a database record in which a piece of information is stored. Each column or row in a database is known as a field. A field name is a name that identifies the data stored in a field. When a field is in the table, it will be displayed in bold font in the field box.

**Field Box** - The field box contains a list of all the fields available in the database and can be used to add or remove fields from a table, as well as recode existing fields to suit the users needs. The field box can be accessed through the Cross/Fields menu or selecting the field box icon on the icon bar  .

**Header** - The header is at the top of the page and contains the organisation's name as well as several default codes regarding the contents of the table. The header is primarily used to input the tables name and details of the table. Double click in table header to create new names or titles.

**Meta-Information** - Meta-information is descriptive information on fields within Supertable. It is information which may include descriptions, explanations and notes about the data within a database.

**Nested Fields** - Fields are nested when one field is placed within another field. Any field can be nested within another in the same table dimension. Using the drag and drop method, place the first field in the table, then select a second field or recode, drag from the field box and place above the initial field in the table. The two fields have been nested.

**Recode** - A recode is the name given to those fields that have been changed from their original form. Values may have been added, removed or grouped to produce a recode. A recode will be displayed in the field box directly beneath the original field and indented.

**Row** - Horizontal part of the table where fields can be stored.

**Spanner Label** - A spanner label is a field name that can be used as a heading for a set of values. It contains the names of all concatenated fields within an axis and is placed at the beginning of the axis.

**Summation Options** - The summation options field controls what is counted in a table. There are two types of Summation Options: levels in a database and fields with an infinite number of values e.g. customers, cells, income. The summation options field is located at the top of the Fields dialog box.

**Supertable** - Supertable is a cross tabulation software package that allows rapid access to large databases. Multi-dimensional tables can be created that may not have been publishable and specially defined tables to suit users needs can be created from a range of variables. The current version of Supertable available is Supertable 3.7.45.

**Wafer** - Top left hand corner of the table that adds the third dimension to a table. Fields can be placed into the wafer where only one value is viewed at a time.

## **Attachment c - EXPLANATORY NOTES from Building Approvals, Australia (8731.0)**

### **INTRODUCTION**

**1** This publication presents monthly details of building work approved.

### **SCOPE AND COVERAGE**

**2** Statistics of building work approved are compiled from:

- permits issued by local government authorities and other principal certifying authorities
- contracts let or day labour work authorised by commonwealth, state, semi-government and local government authorities
- major building approvals in areas not subject to normal administrative approval e.g. building on remote mine sites.

**3** The scope of the survey comprises the following:

- construction of new buildings
- alterations and additions to existing buildings
- approved non-structural renovation and refurbishment work
- approved installation of integral building fixtures.

**4** Excluded from the statistics is construction activity not defined as building (e.g. roads, bridges, railways, earthworks, etc.). Statistics for this activity can be found in **Engineering Construction Activity, Australia** (cat. no. 8762.0).

**5** From July 1990, the statistics include:

- all approved new residential building valued at \$10,000 or more
- approved alterations and additions to residential building valued at \$10,000 or more
- all approved non-residential building jobs valued at \$50,000 or more.

### **VALUE DATA**

**6** Statistics on the value of building work approved are derived by aggregating the estimated 'value of building work when completed' as reported on building approval documents provided to local councils or other building approval authorities. Conceptually these value data should exclude the value of land and landscaping but include site preparation costs. These estimates are usually a reliable indicator of the completed value of 'houses'. However, for 'other residential buildings' and 'non-residential buildings', they can differ significantly from the completed value of the building as final costs and contracts have not been established before council approval is sought and gained.

**7** The ABS generally accepts values provided by approving bodies. Every effort is made to ensure data are provided on a consistent basis, however, there may be instances where value reported does not reflect the building completion value. For example, the reported value for most project homes is the contract price, which may include the cost of site preparation and landscaping. In other cases where a builder is contracted to construct a dwelling based on the owner's plans, the value may only be the builder's costs. Some councils do not use the value on approval documents, instead deriving a value based on floor area and type of structure.

**8** From July 2000, value data includes the Goods and Services Tax (GST) for residential and non-residential building approvals. The ABS has consulted with councils and other approving authorities to ensure that approval values are reported inclusive of the GST. Where it was identified by a council or other approving authority that approvals submitted from its jurisdiction were on a GST-exclusive basis, the ABS made adjustments to the data to ensure that values were consistent with other data collected and were inclusive of GST.

## **OWNERSHIP**

**9** Building ownership is classified as either public or private sector and is based on the sector of intended owner of the completed building at the time of approval. Residential buildings constructed by private sector builders under government housing authority schemes are classified as public sector when the authority has contracted, or intends to contract, to purchase the building on or before completion.

## **BUILDING CLASSIFICATION**

**10 Functional classification of buildings.** A building is classified according to its intended major function. Hence a building which is ancillary to other buildings, or forms a part of a group of related buildings, is classified to the function of the building and not to the function of the group as a whole. An example of this can be seen in the treatment of building work approved for a factory complex. In this case, a detached administration building would be classified to Offices, a detached cafeteria building to Retail/wholesale trade, while factory buildings would be classified to Factories. An exception to this rule is the treatment of group accommodation buildings where, for example, a student accommodation building on a university campus would be classified to Educational. The categories included under type of building classifications are defined in the Glossary.

**11** In the case of a large multi-function building which, at the time of approval is intended to have more than one purpose (e.g. a hotel/shops/casino project), the ABS endeavours to split the approval details according to each main function. Where this is not possible because separate details cannot be obtained, the building is classified to the predominant function of the building on the basis of the function which represents the highest proportion of the total value of the project.

**12** Building approvals are classified both by the **Type of Building** (e.g. 'house', 'factory') and by the **Type of Work** involved (e.g. 'new', 'alterations and additions' and 'conversions'). These classifications are often used in conjunction with each other in this publication and are defined in the Glossary.

**13** The **Type of Work** classification refers to the building activity carried out. Conversion jobs are shown separately in tables 9, 10, 19 and 20. However, in other tables they are included within existing categories, as follows: in tables 1 and 2 they are included in the appropriate **Type of Building** category, and in tables 13, 14 and 24 they are included in the 'Alterations and additions to residential buildings' category.

## **SEASONAL ADJUSTMENT**

**14** Seasonal adjustment is a means of removing the estimated effects of seasonal variation from the series so that the effects of other influences can be more clearly recognised.

**15** In the seasonal adjustment of series, account has been taken of both normal seasonal factors and 'trading day' effects arising from the varying numbers of Sundays, Mondays, Tuesdays, etc. in the month. Adjustment has also been made for the influence of Easter which may affect the March and April estimates differently.

**16** Seasonal adjustment does not remove from the series the effect of irregular or non-seasonal influences (e.g. the approval of large projects or a change in the administrative arrangements of approving authorities).

**17** From May 2003, the seasonally adjusted estimates are produced by the concurrent seasonal adjustment method which takes account of the latest available original estimates. The concurrent method improves the estimation of seasonal factors, and therefore, the seasonally adjusted and trend estimates for the current and previous months. As a result of this improvement, revisions to the seasonally adjusted and trend estimates will be observed for recent periods. The estimates that will improve the most will be for the current month, previous month and the same month one year ago. The concurrent seasonal adjustment methodology replaces the forward factor methodology previously used to adjust Building Approval series, where seasonal factors were only revised following an annual reanalysis.

**18** The state/territory series have been seasonally adjusted independently. However, a further adjustment has been made to these series to provide coherence between the state/territory estimates and the Australian total estimates.

**19** A more detailed review of concurrent seasonal factors will be conducted annually, generally prior to the release of data for May. The timing of this review may vary and when appropriate will be notified in the 'Data Notes' section of this publication.

**20** Smoothing seasonally adjusted series reduces the impact of the irregular component of the seasonally adjusted series and creates trend estimates. For monthly series, these trend estimates are derived by applying a 13-term Henderson-weighted moving average to all months of the seasonally adjusted series except the last six months. Trend series are created for the last six months by applying surrogates of the Henderson moving average to the seasonally adjusted series. For the quarterly chain volume measures (table 24), the trend estimates are derived by applying a 7-term Henderson-weighted moving average to all quarters of the respective seasonally adjusted series except the last three quarters. Trend series are created for these last three quarters by applying surrogates of the Henderson moving average seasonally adjusted series. For further information, see **Information Paper: A Guide to Interpreting Time Series-Monitoring 'Trends': an Overview** (cat. no. 1348.0) or contact the Assistant Director, Time Series Analysis on Canberra (02) 6252 6540 or email .

**21** While the smoothing techniques described in paragraph 20 enable trend estimates to be produced for the latest few periods, they do result in revisions to the trend estimates as new data becomes available. Generally, revisions become smaller over time and, after three months, usually have a negligible impact on the series. Revisions to the original data may also lead to revisions to the trend.

**22** The ABS considered whether the introduction of the GST would cause a break in the trend series between June and July 2000 for building and construction value data. The ABS concluded that the data were unlikely to experience a significant one-off impact between June and July because values inclusive of GST had been gradually included in the series over that period. Therefore the trend value series was continued to be published as in the past. Users should, however, be cautious when analysing the most recent trend estimates as these are subject to revisions as new monthly data becomes available.

## CHAIN VOLUME MEASURES

**23** The chain volume measures appearing in this publication are annually reweighted chain Laspeyres indexes referenced to current price values in a chosen reference year. The reference year is updated annually in the July issue of this publication. While current price estimates reflect both price and volume changes, chain volume estimates measure changes in value after the direct effects of price changes have been eliminated and hence only reflect volume changes. The direct impact of the GST is a price change, and hence is removed from chain volume estimates. Further information on the nature and concepts of chain volume measures is contained in the ABS publication **Information Paper: Introduction of Chain Volume Measures in the Australian National Accounts** (cat. no. 5248.0).

## AUSTRALIAN STANDARD GEOGRAPHIC CLASSIFICATION (ASGC)

**24** Area statistics are now being classified to the **Australian Standard Geographical Classification (ASGC), 2005 Edition** (cat. no. 1216.0), effective from July 2005. Building work approved before July 2005 was classified according to the current edition of the ASGC at that time, and is presented in this publication unrevised, in the original geographical area that applied at the time of approval. From July 2001, the Statistical Division of Darwin includes Litchfield Shire, previously in the Statistical Division of Northern Territory Balance.

**25** From 1 July 2002, approvals in the External Territories of Australia are included in these statistics. Jervis Bay is included in New South Wales, while Christmas Island and Cocos (Keeling) Islands are included in Western Australia.

## RELATED PUBLICATIONS

**26** Users may also wish to refer to the following publications:

**Building Activity, Australia**, cat. no. 8752.0

**Dwelling Unit Commencements, Australia, Preliminary**, cat. no. 8750.0

**Construction Work Done, Australia, Preliminary**, cat. no. 8755.0

**Engineering Construction Activity, Australia**, cat. no. 8762.0

**House Price Indexes: Eight Capital Cities**, cat. no. 6416.0

**Housing Finance for Owner Occupation, Australia**, cat. no. 5609.0

**Producer Price Indexes, Australia**, cat. no. 6427.0

**27** While building approvals value series are shown inclusive of GST, this is different to building activity – **Building Activity, Australia** (cat. no. 8752.0) and **Construction Work Done, Australia, Preliminary** (cat. no. 8755.0) – in which residential work will be published inclusive of GST and non-residential work exclusive of GST. In the Engineering Construction Survey – **Engineering Construction Activity, Australia** (cat. no. 8762.0) all values will exclude GST.

## ABS DATA AVAILABLE ON REQUEST

**28** As well as the statistics included in this and related publications, the ABS may have other relevant data available on request. Inquiries should be made to the National Information and Referral Service on 1300 135 070.

## ROUNDING

**29** When figures have been rounded, discrepancies may occur between sums of the component items and totals.

## **Attachment d - GLOSSARY from Building Approvals, Australia (8731.0)**

### **Accommodation**

Buildings primarily providing short-term or temporary accommodation, and includes the following categories:

- Self contained, short term apartments (e.g. serviced apartments)
- Hotels (predominantly accommodation), motels, boarding houses, cabins
- Other short term accommodation n.e.c. (e.g. migrant hostels, youth hostels, lodges).

### **Aged care facilities**

Building used in the provision or support of aged care facilities, excluding dwellings (e.g. retirement villages). Includes aged care facilities with and without medical care.

### **Agriculture/aquaculture**

Buildings housing, or associated with, agriculture and aquaculture activities, including bulk storage of produce (e.g. shearing shed, grain silo, shearers' quarters).

### **Alterations and additions**

Building activity carried out on existing buildings. Includes adding to or diminishing floor area, altering the structural design of a building and affixing rigid components which are integral to the functioning of the building.

### **Alterations and additions to residential buildings**

Alterations and additions carried out on existing residential buildings, which may result in the creation of new dwelling units. See also Explanatory Notes, paragraph 13.

### **Building**

A building is a rigid, fixed and permanent structure which has a roof. Its intended purpose is primarily to house people, plant, machinery, vehicles, goods or livestock. An integral feature of a building's design is the provision for regular access by persons in order to satisfy its intended use.

### **Commercial**

Buildings primarily occupied with or engaged in commercial trade or work intended for commercial trade, including buildings used primarily in wholesale and retail trades, office and transport activities.

### **Conversion**

Building activity which converts a non-residential building to a residential building, e.g. conversion of a warehouse to residential apartments. Conversion is considered to be a special type of alteration, and these jobs have been separately identified as such from the July 1996 reference month, though they have only appeared separately in this publication from the January 1998 issue. Prior to that issue, conversions were published as part of the 'Conversions, etc.' category or included elsewhere within a table. See also Explanatory Notes, paragraph 13.

## **Dwelling unit**

A dwelling unit is a self-contained suite of rooms, including cooking and bathing facilities and intended for long-term residential use. Regardless of whether they are self-contained or not, units within buildings offering institutional care (e.g. hospitals) or temporary accommodation (e.g. motels, hostels and holiday apartments) are not defined as dwelling units. Such units are included in the appropriate category of non-residential building approvals. Dwelling units can be created in one of four ways: through new work to create a residential building; through alteration/addition work to an existing residential building; through either new or alteration/addition work on non-residential building or through conversion of a non-residential building to a residential building.

## **Educational**

Buildings used in the provision or support of educational services, including group accommodation buildings (e.g. classrooms, school canteens, dormitories).

## **Entertainment and recreation**

Buildings used in the provision of entertainment and recreational facilities or services (e.g. libraries, museums, casinos, sporting facilities).

## **Factories**

Buildings housing, or associated with, production and assembly processes of intermediate and final goods.

## **Flats, units or apartments**

Dwellings not having their own private grounds and usually sharing a common entrance, foyer or stairwell.

## **Health**

Buildings used in the provision of non-aged care medical services (e.g. nursing quarters, laboratories, clinics).

## **House**

A house is a detached building primarily used for long term residential purposes. It consists of one dwelling unit. For instance, detached 'granny flats' and detached dwelling units (e.g. caretaker's residences) associated with a non-residential building are defined as houses. Also includes 'cottages', 'bungalows' and rectories.

## **Industrial**

Buildings used for warehousing and the production and assembly activities of industrial establishments, including factories and plants.

## **New building work**

Building activity which will result in the creation of a building which previously did not exist.

### **New other residential buildings**

Building activity which will result in the creation of a residential building other than a house, which previously did not exist.

### **New residential**

Building activity which will result in the creation of any residential building (house or other residential) which previously did not exist.

### **Non-residential building**

A non-residential building is primarily intended for purposes other than long term residential purposes. Note that, on occasions, one or more dwelling units may be created through non-residential building activity. Prior to the January 1998 issue of this publication, they have been included in the 'Conversions, etc.' column in tables showing dwelling units approved. They are now identified separately (e.g. see table 9). However, the value of these dwelling units cannot be separated out from that of the non-residential building which they are part of, therefore the value associated with these remain in the appropriate non-residential category.

### **Offices**

Buildings primarily used in the provision of professional services or public administration (e.g. offices, insurance or finance buildings).

### **Other dwellings**

Includes all dwellings other than houses. They can be created by: the creation of new other residential buildings (e.g. flats); alteration/addition work to an existing residential building; either new or alteration/addition work on a non-residential building; conversion of a non-residential building to a residential building creating more than one dwelling unit.

### **Other residential building**

An other residential building is a building other than a house primarily used for long-term residential purposes. An other residential building contains more than one dwelling unit. Other residential buildings are coded to the following categories: semidetached, row or terrace house or townhouse with one storey; semi-detached, row or terrace house or townhouse with two or more storeys; flat, unit or apartment in a building of one or two storeys; flat, unit or apartment in a building of three storeys; flat, unit or apartment in a building of four or more storeys; flat, unit or apartment attached to a house; other/number of storeys unknown. The latter two categories are included with the semidetached, row or terrace house or townhouse with one storey category in table 11 and 12 of this publication.

### **Religious**

Buildings used for or associated with worship or in support of programs sponsored by religious bodies (e.g. church, temple, church hall, dormitories).

**Residential building**

A residential building is a building consisting of one or more dwelling units. Residential buildings can be either houses or other residential buildings.

**Retail/wholesale trade**

Buildings primarily used in the sale of goods to intermediate and end users.

**Semidetached, row or terrace houses, townhouses**

Dwellings having their own private grounds with no other dwellings above or below.

**Transport**

Buildings primarily used in the provision of transport services, and includes the following categories:

- Passenger transport buildings (e.g. passenger terminals)
- Non-passenger transport buildings (e.g. freight terminals)
- Commercial car parks (excluded are those built as part of, and intended to service, other distinct building developments)
- Other transport buildings n.e.c.

**Warehouses**

Buildings primarily used for storage of goods, excluding produce storage.

## **Attachment e - EXPLANATORY NOTES from Building Activity, Australia (8752.0)**

### **INTRODUCTION**

**1** This publication contains detailed estimates from the quarterly Building Activity Survey. Each issue includes revisions to the previous quarter. Therefore data for the latest quarter should be considered to be preliminary only.

### **SCOPE AND COVERAGE**

**2** The statistics were compiled on the basis of returns collected from builders and other individuals and organisations engaged in building activity. From the March quarter 2002, the quarterly survey consists of:

- a sample survey of private sector jobs involving residential building jobs valued at \$10,000 or more and non-residential building jobs valued at \$50,000 or more
- a complete enumeration of all such public sector building jobs.

**3** From the September quarter 2004, contributions to published estimates from smaller house renovations are no longer directly collected as part of the Building Activity Survey. They are estimated from their approval value. This change affects only in scope building jobs involving alterations and additions to houses with an approval value of less than \$40,000.

**4** From the September quarter 1990, only non-residential building jobs (both new and alterations and additions) with an approval value of \$50,000 (previously \$30,000) or more are included in the survey.

**5** The use of sample survey techniques in the Building Activity Survey means that reliable estimates of private sector building activity are generally available only at state, territory and Australia levels. Although subject to higher relative standard errors (refer to paragraphs 17-20), a range of sub-state estimates of building activity may be available. Reliable small area data are available for the Northern Territory, which has been completely enumerated since the June quarter 1991. For further information on the availability of Building Activity estimates, contact the Australian Bureau of Statistics (ABS) in Adelaide on (08) 8237 7668. Detailed data on Building Approvals, based on information reported by local government and other reporting authorities, are available for regions below state and territory level from the Building Approval series compiled by the ABS.

**6** The statistics relate to **building** activity which includes construction of new buildings and alterations and additions to existing buildings. Construction activity not defined as building (e.g. construction of roads, bridges, railways, earthworks, etc.) is compiled from the ABS Engineering Construction Survey (ECS). Results from the Building Activity Survey, together with estimates from the ECS, provide a complete quarterly picture of building and construction.

**7** Building jobs included in each quarter in the Building Activity Survey comprise those jobs selected in previous quarters which have not been completed (or commenced) by the end of the previous quarter and those jobs newly selected in the current quarter. The population list from which jobs are selected for inclusion comprises all approved building jobs which were notified to the ABS (refer paragraph 2) up to but not including the last month of the reference quarter (i.e. up to the end of August in respect of the September quarter survey). This introduces a lag to the statistics in respect of those jobs notified **and** commenced in the last month of the reference quarter (i.e. for the month of September in respect of the September quarter survey). For example, jobs which were notified as approved in the month of June and which actually commenced in that month are shown as commencements in the September quarter. Similarly, building

jobs which were notified in the month of September and which actually commenced in that month are shown as commencements in the December quarter.

**8** From the September quarter 2002, building activity in the External Territories of Australia is included in these statistics. Jervis Bay is included in New South Wales, while Christmas Island and Cocos (Keeling) Islands are included in Western Australia.

## **TREATMENT OF GST**

**9** Statistics on the value of building work (current prices) show residential building on a GST inclusive basis and non-residential building on a GST exclusive basis. This approach is consistent with that adopted in the Australian National Accounts which is based on the conceptual framework described in the 1993 edition of the international statistical standard System of National Accounts (SNA93).

**10** SNA93 requires value added taxes (VAT), such as the GST, to be recorded on a net basis where:

- (a) both outputs of goods and services and imports are valued excluding invoiced VAT
- (b) purchases of goods and services are recorded including non-deductible VAT.

**11** Under the net system, VAT is recorded as being payable by purchasers, not sellers, and then only by those purchasers who are not able to deduct it. Almost all VAT is therefore recorded in the SNA93 as being paid on final uses - mainly on household consumption. Small amounts of VAT, may however, be paid by businesses in respect of certain kinds of purchases on which VAT may not be deductible.

**12** Within building activity statistics, purchasers of residential structures are unable to deduct GST from the purchase price. For non-residential structures, the reverse is true. While the ABS collects all building activity data on a GST inclusive basis, it publishes value data inclusive of GST in respect of residential construction and exclusive of GST in respect of non-residential construction.

**13** It is appropriate to add the residential and non-residential components to derive total building activity. Valuation of the components of the total is consistent, since, for both components, the value data is recorded inclusive of non-deductible GST paid by the purchaser. As such, total building activity includes the non-deductible GST payable on residential building.

## **CLASSIFICATION**

**14 Ownership.** The ownership of a building is classified as either **private sector** or **public sector**, according to the sector of the intended owner of the completed building as evident at the time of approval. Residential buildings being constructed by private sector builders under government housing authority schemes whereby the authority has contracted, or intends to contract, to purchase the buildings on or before completion, are classified as public sector.

**15 Functional classification of buildings.** A building is classified according to its intended major function. Hence a building which is ancillary to other buildings, or forms a part of a group of related buildings, is classified to the function of the building and not to the function of the group as a whole. An example of this can be seen in the treatment of building work approved for a factory complex. In this case, a detached administration building would be classified to Offices, a detached cafeteria building to Retail/wholesale trade, while factory buildings would be classified to Factories. An exception to this rule is the treatment of group accommodation buildings where, for example, a student accommodation building on a university campus would be classified to Educational. The

categories included under type of building classifications are defined in the Glossary.

**16** In the case of a large multi-function building which, at the time of approval, is intended to have more than one purpose (e.g. a hotel/shops/residential apartments project), the ABS endeavours to split the details according to each main function. Where this is not possible because separate details cannot be obtained, the building is classified to the predominant function of the building on the basis of the function which represents the highest proportion of the total value of the project.

**17** Building jobs are classified both by the **Type of Building** (e.g. 'house', 'factory') and by the **Type of Work** involved (e.g. 'new', 'alterations and additions' and 'conversions, etc.'). These classifications are used in conjunction with each other and are defined in the Glossary.

## **RELIABILITY OF THE ESTIMATES**

**18** Since the estimates for private sector building activity (including alterations and additions) are based on a sample of approved building jobs, they are subject to sampling error; that is, they may differ from the figures that would have been obtained if information for all approved jobs for the relevant period had been included in the survey. One measure of the likely difference is given by the standard error (SE), which indicates the extent to which an estimate might have varied by chance because only a sample of approved jobs was included. There are about two chances in three that a sample estimate will differ by less than one SE from the figure that would have been obtained if all approved jobs had been included, and about nineteen chances in twenty that the difference will be less than two SEs. Another measure of sampling variability is the relative standard error (RSE), which is obtained by expressing the SE as a percentage of the estimate to which it refers. The RSEs of estimates provide an indication of the percentage errors likely to have occurred due to sampling, and are shown in tables 38 and 39.

**19** An example of the use of RSEs is as follows. Assume that the estimate of the number of new private sector houses commenced during the latest quarter is 30,000 (for actual estimate see table 18) and that the associated RSE is 1.5% (for actual percentage see table 36). There would then be about two chances in three that the number which would have been obtained if information had been collected about all approved private sector house jobs would have been within the range 29,550 to 30,450 (1.5% of 30,000 is 450) and about nineteen chances in twenty that the number would have been within the range 29,100 to 30,900.

**20** Estimates that have an estimated relative standard error between 10% and 25% are annotated with the symbol '^'. These estimates should be used with caution as they are subject to sampling variability too high for some purposes. Estimates with an RSE between 25% and 50% are annotated with the symbol '\*' indicating that the estimate should be used with caution as it is subject to sampling variability too high for most practical purposes. Estimates with an RSE greater than 50% are annotated with the symbol '\*\*' indicating that the sampling variability causes the estimates to be considered too unreliable for general use.

**21** The imprecision due to sampling variability, which is measured by the RSE, should not be confused with inaccuracies that may occur because of inadequacies in the source of building approval information, imperfections in reporting by respondents, and errors made in the coding and processing of data. Inaccuracies of this kind are referred to as non-sampling error, and may occur in any enumeration whether it be a full count or only a sample. Every effort is made to reduce the non-sampling error to a minimum by the careful design of questionnaires, efforts to obtain responses for all selected jobs, and efficient operating procedures.

## SEASONAL ADJUSTMENT

**22** Seasonally adjusted building statistics are shown in tables 1-10, 13-21 and 23. In the seasonally adjusted series, account has been taken of normal seasonal factors, 'trading day' effects arising from the varying numbers of working days in a quarter and the effect of movement in the date of Easter which may, in successive years, affect figures for different quarters.

**23** Since seasonally adjusted statistics reflect both irregular and trend movements, an upward or downward movement in a seasonally adjusted series does not necessarily indicate a change of trend. Particular care should therefore be taken in interpreting individual quarter-to-quarter movements. Some of the component series shown have been seasonally adjusted independently. As a consequence, while the unadjusted components in the original series shown add to the totals, the adjusted components may not add to the adjusted totals. (For example, the sum of the adjusted state series - for both work done and number of dwelling unit commencements - may not add to the adjusted Australian total). Therefore, figures should not be derived using the adjusted totals.

**24** From the June quarter 2003, the seasonally adjusted estimates are produced by the concurrent seasonal adjustment method which takes account of the latest available original estimates. The concurrent seasonal adjustment methodology replaces the forward factor methodology previously used, when seasonal factors were only revised following an annual reanalysis. The concurrent method improves the estimation of seasonal factors and, therefore, the seasonally adjusted and trend estimates for the current and previous quarters. As a result of this improvement, revisions to the seasonally adjusted and trend estimates will be observed for recent periods. In most instances, the only noticeable revisions will be to the previous quarter and the same quarter of a year earlier.

**25** A more detailed review of concurrent seasonal factors will be conducted annually, generally prior to the release of data for the December quarter.

## TREND ESTIMATES

**26** Seasonally adjusted series can be smoothed to reduce the impact of the irregular component in the adjusted series. This smoothed seasonally adjusted series is called a trend estimate.

**27** The trend estimates are derived by applying a 7-term Henderson moving average to the seasonally adjusted series. The 7-term Henderson average (like all Henderson averages) is symmetric but, as the end of a time series is approached, asymmetric forms of the average are applied. Unlike weights of the standard 7-term Henderson moving average, the weights employed here have been tailored to suit the particular characteristics of individual series.

**28** While the smoothing technique described in paragraphs 25 and 26 enables trend estimates to be produced for recent quarters, it does result in revisions to the estimates for the most recent three quarters as additional observations become available. There may also be revisions because of changes in the original data. For further information, see **Information Paper: A Guide to Interpreting Time Series - Monitoring Trends, 2003** (cat. no. 1349.0) or contact the Assistant Director, Time Series Analysis on Canberra (02) 6252 6540 or email <timeseries@abs.gov.au>.

## CHAIN VOLUME MEASURES

**29** Chain volume estimates of the value of commencements and work done are presented in original, seasonally adjusted and trend terms for Australia and for each state and territory.

**30** While current price estimates of the value of commencements and work done reflect both price and volume changes, chain volume estimates measure changes in value after the direct effects of price changes have been eliminated and therefore only reflect volume changes. The direct impact of the GST is a price change, and hence is removed from chain volume estimates. The deflators used to revalue the current price estimates in this publication are derived from the same price data underlying the deflators compiled for the dwellings and new other building components of the national accounts aggregate 'Gross fixed capital formation'.

**31** The chain volume measures of commencements and work done appearing in this publication are annually reweighted chain Laspeyres indexes referenced to current price values in a chosen reference year (currently 2003-04). The reference year is updated annually in the June quarter publication. Each year's data in the value of commencements and work done series are based on the prices of the previous year, except for the quarters of the latest incomplete year which are based upon the current reference year (i.e. 2003-04). Comparability with previous years is achieved by linking (or chaining) the series together to form a continuous time series. Further information on the nature and concepts of chain volume measures is contained in the ABS **Information Paper: Australian National Accounts, Introduction of Chain Volume and Price Indexes** (cat. no. 5248.0).

**32** The factors used to seasonally adjust the chain volume series are identical to those used to adjust the corresponding current price series.

## ACKNOWLEDGMENT

**33** ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated: without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the **Census and Statistics Act 1905**.

## RELATED PRODUCTS

**34** Users may also wish to refer to the following publications:  
**Building Approvals, Australia**, cat. no. 8731.0  
**Construction Work Done, Australia, Preliminary**, cat. no. 8755.0  
**Dwelling Unit Commencements, Australia, Preliminary**, cat. no. 8750.0  
**Engineering Construction Activity, Australia**, cat. no. 8762.0  
**House Price Indexes: Eight Capital Cities**, cat. no. 6416.0  
**Housing Finance for Owner Occupation, Australia**, cat. no. 5609.0  
**Private Sector Construction Industry, Australia, 1996-97**, cat. no. 8772.0  
**Producer Price Indexes, Australia**, cat. no. 6427.0.

**35** Current publications and other products released by the ABS are listed in the **Catalogue of Publications and Products** (cat. no. 1101.0). The Catalogue is available from the National Information and Referral Service on 1300 135 070 or the ABS web site <<http://www.abs.gov.au>>. The ABS also issues a daily Release Advice on the web site which details products to be released in the week ahead.

#### **ABS DATA AVAILABLE ON REQUEST**

**36** As well as the statistics included in this and related publications, the ABS may have other relevant data available on request. Inquiries should be made to the National Information and Referral Service on 1300 135 070.

## **Attachment f - GLOSSARY from Building Activity, Australia (8752.0)**

### **GLOSSARY**

#### **Accommodation**

Buildings primarily providing short-term or temporary accommodation, and includes the following categories:

- Self contained, short term apartments (e.g. serviced apartments)
- Hotels (predominantly accommodation), motels, boarding houses, cabins
- Other short term accommodation n.e.c. (e.g. migrant hostels, youth hostels, lodges).

#### **Aged care facilities**

Building used in the provision or support of aged care facilities, excluding dwellings (e.g. retirement villages). Includes aged care facilities with and without medical care.

#### **Agriculture/aquaculture**

Buildings housing, or associated with, agriculture and aquaculture activities, including bulk storage of produce (e.g. shearing shed, grain silo, shearers' quarters).

#### **Alterations and additions**

Building activity carried out on existing buildings. Includes adding to or diminishing floor area, altering the structural design of a building and affixing rigid components which are integral to the functioning of the building.

#### **Alterations & additions to residential buildings**

Alterations and additions carried out on existing residential buildings, which may result in the creation of new dwelling units. See also "Conversions, etc" below.

#### **Building**

A building is a rigid, fixed and permanent structure which has a roof. Its intended purpose is primarily to house people, plant, machinery, vehicles, goods or livestock. An integral feature of a building's design, to satisfy its intended use, is the provision for regular access by persons.

#### **Commenced**

A building is commenced when the first physical building activity has been performed on site in the form of materials fixed in place and/or labour expended (this includes site preparation but excludes delivery of building materials, the drawing of plans and specifications and the construction of non-building infrastructures, such as roads).

## **Commercial**

Buildings primarily occupied with or engaged in commercial trade or work intended for commercial trade, including buildings used primarily in wholesale and retail trades, office and transport activities.

## **Completed**

A building is completed when building activity has progressed to the stage where the building can fulfil its intended function.

## **Conversions, etc**

A conversion is building activity which converts a non-residential building to a residential building, e.g. conversion of a warehouse to residential apartments. Conversion is considered to be a special type of alteration. "Conversions, etc" are the number of dwelling units created as part of alterations and additions to, or conversions of, existing residential or non-residential buildings and as part of the construction of non-residential building. "Conversions, etc" are shown separately in tables 21 and 23 and are included in the total number of dwelling units shown in these tables. However, while the value of conversions is included in the value of alterations and additions to residential buildings, the value of new dwelling units associated with non-residential buildings is included in the value of non-residential buildings.

## **Dwelling unit**

A dwelling unit is a self-contained suite of rooms, including cooking and bathing facilities and intended for long-term residential use. Units (whether self-contained or not) within buildings offering institutional care, such as hospitals, or temporary accommodation such as motels, hostels and holiday apartments, are not defined as dwelling units. The value of units of this type is included in the appropriate category of non-residential building.

## **Educational**

Buildings used in the provision or support of educational services, including group accommodation buildings (e.g. classrooms, school canteens, dormitories).

## **Entertainment and recreation**

Buildings used in the provision of entertainment and recreational facilities or services (e.g. libraries, museums, casinos, sporting facilities).

## **Factories**

Buildings housing, or associated with, production and assembly processes of intermediate and final goods.

## **Health**

Buildings used in the provision of non-aged care medical services (e.g. nurses quarters, laboratories, clinics).

## **House**

A house is a detached building predominantly used for long-term residential purposes and consisting of only one dwelling unit. Thus, detached 'granny flats' and detached dwelling units (such as caretakers' residences) associated with non-residential buildings are defined as houses for the purpose of these statistics.

## **Industrial**

Buildings used for warehousing and the production and assembly activities of industrial establishments, including factories and plants.

## **New**

Building activity which will result in the creation of a building which previously did not exist.

## **Non-residential building**

A non-residential building is primarily intended for purposes other than long term residential purposes. Note that, on occasions, one or more dwelling units may be created through non-residential building activity. The number of these dwelling units are included in "Conversions, etc" in tables 21 and 23. However, the value of these dwelling units cannot be separated out from that of the non-residential building which they are part of, therefore the value associated with these remain in the appropriate non-residential category.

## **Number of dwelling unit commencements and completions**

For other residential building, these statistics present the number of dwelling units in such buildings (and not the number of buildings). For example, if a new building with 25 apartments is commenced, then 25 is included in the number of dwelling unit commencements under 'new other residential building'. Residential building activity involving a number of residential buildings of the same type of building and which are being built on the same site are sometimes grouped. Thus, when a project involving the construction of, say, a group of 10 houses is commenced in the sense that work has started on the first one or two houses, then all 10 houses may be counted as commencements in the statistics. Conversely, it is not until the tenth house is completed that all 10 houses are included in the number of dwelling unit completions.

## **Offices**

Buildings primarily used in the provision of professional services or public administration (e.g. offices, insurance or finance buildings).

## **Other residential building**

An other residential building is a building other than a house primarily used for long-term residential purposes and which contains (or has attached to it) more than one dwelling unit (e.g. includes blocks of flats, home units, attached townhouses, villa units, terrace houses, semi-detached houses, maisonettes, duplexes, apartment buildings, etc.).

## **Religious**

Buildings used for or associated with worship, or in support of programs sponsored by religious bodies (e.g. church, temple, church hall, dormitories).

## **Residential building**

A residential building is a building predominantly consisting of one or more dwelling units. Residential buildings can be either **houses** or **other residential buildings**.

## **Retail/wholesale trade**

Buildings primarily used in the sale of goods to intermediate and end users.

## **Transport**

Buildings primarily used in the provision of transport services, and includes the following categories:

- Passenger transport buildings (e.g. passenger terminals)
- Non-passenger transport buildings (e.g. freight terminals)
- Commercial car parks (excluded are those built as part of, and intended to service, other distinct building developments)
- Other transport buildings n.e.c.

## **Under construction**

A building is regarded as being under construction at the end of a period if it has been commenced but has not been completed, and work on it has not been abandoned.

## **Value of building commenced or under construction**

This represents the anticipated completion value based, where practicable, on estimated market or contract price of building jobs excluding the value of land and landscaping. Site preparation costs are included. Where jobs proceed over several quarters the anticipated completion value reported on the return for the first (commencement) quarter may be amended on returns for subsequent (under construction) quarters as the job nears completion.

**Value of building completed**

This represents the actual completion value based, where practicable, on the market or contract price of jobs including site preparation costs but excluding the value of land and landscaping.

**Value of building work done during the period**

This represents the estimated value of building work carried out during the quarter on jobs which have commenced.

**Value of building work yet to be done**

This represents the difference between the anticipated completion value and the estimated value of work done on jobs up to the end of the period.

**Warehouses**

Buildings primarily used for storage of goods, excluding produce storage.