

Value reconciliations: the beating heart of appraisal



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Despite the number of highly skilled professionals in our field, reconciliations of data such as rents, capitalization rates, unit rates, and even sometimes final reconciliations, are often lacking in narrative ICI/CRE appraisal reports. Over the past dozen years, I have been a volunteer with the Appraisal Institute of Canada (AIC) with the Work Product Review program, reviewing reports for *Canadian Uniform Standards of Professional Appraisal Practice* (CUSPAP) compliance from both new Candidates and seasoned accredited Members. This includes reports from major national firms as well as those from smaller regional and local firms. My opening statement applies across all swaths of our Members' profiles: Candidate Members, seasoned veterans, large firms, and small firms. What you read here today, however, can immediately strengthen your appraisal reports, starting tomorrow.

CUSPAP tells us, at 8.2.9., we must “**detail the reasoning supporting the analyses, opinions, and conclusions of each valuation approach.**”¹ This is the beating heart – a process of reconciling differing indicators – of every appraisal.

Despite this, there's limited information on how to effectively apply this and persuasively convey that to the reader. In the Appraisal Institute's (US) book, *The Appraisal of Real Estate*,² just seven of the 700+ pages are devoted to reconciliation, and most of it does not provide the framework that we, as appraisers, need to effectively think through reconciliations, and then to communicate it. In the practical 74-page *Effective Report Writing: A Guide for Appraisers and Reviewers*,³ just a single page is devoted to Persuasive Writing for Reconciliation. No Continuing Professional Development (CPD) courses are available on this through the University of British Columbia (UBC)/AIC collaboration. The book, *Thinking Better*, explains this general lack of thinking instruction in many situations thusly:

*“Most of the [thinking] programs we use were acquired in a haphazard manner. We were never taught **how** to think, only **what** to think. We were never told **how** best to make decisions, only given decisions to make.”⁴*

These poor resources and limited training lead to reconciliations like the ones shown on the following page, which are quite commonplace.

Reconciliation #1: This is an almost verbatim rental rate reconciliation of an industrial building in Ontario; a table of a dozen rents is shown with a range of \$14 to \$35 per sq.ft.

No average is given. The reconciliation begins and ends as follows:

"These are spaces located throughout [general location]. Those at the upper end are in good locations in higher-end buildings, while those at the lower end are in inferior locations and/or are only average quality spaces.

The subject is a modern building, located in a popular industrial park in [specific location], with a site having ample yard space. It is therefore my opinion that the rental value of the subject is \$21."

Reconciliation #2: This is an amalgam of very common reconciliations seen:

"Index #1 is [list of some positive/negative attributes] and so is inferior to the subject. The subject should have a lower cap rate.

Index #2 is [list of some attributes] and is thus superior to the subject. The subject should have a higher cap rate."

This process goes on, in numerical order for the remaining six comparables, and then a conclusion is reached something like this:

"Given these indicators, the subject should lie within a cap rate range of 4.5% to 5.5%, and a rate of 5.0% is believed warranted in this circumstance."

Either of these two types of reconciliations, whether in sectional areas (rent, cap rates, sq. ft. rates, etc.) or in the final reconciliation, are very common. The appraiser has not truly 'detailed the reasoning,' at least not to the extent that the report user can easily follow, or be persuaded to, the final choice. To do better, we must know and apply a bit of how the human brain processes information, its limitations, and classical persuasive argumentation techniques. Following these processes will help the appraiser become much clearer in thinking through their choices, and they will then be able to communicate that clearly to the report user.

Here are the following crucial topics:

1. The importance of providing an overview to facilitate an appropriate thinking framework;
2. Short-term memory and working memory limitations;
3. Logical thinking and persuasive writing.

PROVIDING AN OVERVIEW

An essential step in effectively processing information is providing a general overview of the most compelling characteristics of both your subject property, and the data discussion to come. Giving an overview before analyzing detailed data is key, as it encourages the appraiser to think about the most compelling characteristics of the subject **in relation to this set of market data**. Critically, it also provides the mental framework that the report user needs to understand and follow the analysis.

The overview should:

1. **Set the purpose and direction:** An overview explains *why* the data is being presented. It tells the reader what question is being answered, so they can interpret each piece of data in context rather than in isolation.
2. **Prepare the reader's expectations:** It outlines what kind of information or discussion will follow so the reader isn't surprised or confused when they encounter tables, calculations, or narrative analysis.
3. **Focus attention on what matters:** With a roadmap in mind, the reader knows which details are important and which are background. This reduces cognitive load and keeps the reader oriented throughout the explanation.
4. **Improve clarity and persuasion:** Starting with a clear overview provides logical structure and transparency. It builds trust, showing that your conclusion is based on a process, not just opinion.

In summary, an overview acts like a signpost. It tells the reader where they are going, why it matters, and how they will get there. It makes the data easier to digest, and conclusions easier to accept.

WORKING MEMORY

Next, we must understand how we process and work with new information as we have a limited capacity for short-term memory and working with that information. According to cognitive psychologist George A. Miller's famous 1956 paper,⁵ people can typically hold about **7 (± 2)** items in their short-term memory. This includes discrete pieces of information such as digits, words, or other chunks. Later research⁶ has refined this estimate, suggesting that **4 $\pm$ 1** items may be a more accurate limit, **particularly when items are not meaningfully grouped**.

When it comes to mentally sorting, manipulating, or working with information – known as working memory⁷ – the capacity is different. Working memory not only stores, but also processes information. Studies show that **people can generally manipulate just three to five chunks of information** at once, depending on complexity and familiarity. This limitation affects tasks such as mental arithmetic, problem solving, or reasoning. Importantly, the concept of 'chunking' or 'grouping' can expand both memory and manipulation limits. The more demanding the task, however, the fewer chunks the brain can effectively manage.

Overall, while the human brain has extraordinary capacity for long-term memory, its short-term and working memory are quite constrained, influencing everything from daily multitasking to how we learn new information.

This means that simply going through all six, seven, eight, (twelve, etc.) comparables in lockstep fashion – without grouping them in some meaningful fashion – is likely to lose your reader and does not help you, the appraiser, focus on the bigger picture. It is extremely helpful to begin to group your comparables into sets of two, three, or even four (depending upon number of comparables) of combined data that exhibit enough similar characteristics to have some joint meaning. Within those groupings, trends should emerge by looking at the averages (or ranges) that those produce. This helps get the number of chunks of information down to a workable capacity both for you, the appraiser, and the report user.

LOGICAL THINKING AND PERSUASIVE WRITING

Finally, the narrative analysis itself must be based on logical thinking, and persuasively communicated to the reader. Proceeding through the comparables in straitjacket order does not help you, nor the report user, understand or effectively process the data.

Instead, follow classic Greek and Roman rhetorical process of starting with (and then dispensing) the weaker data, moving steadily towards the best data (single data pieces or several grouped data). Building an argument from weaker to stronger evidence makes the conclusion easier to follow and thus feels earned, not imposed. It mirrors natural reasoning: consider all options, then steadily narrow towards the best.

This same process is also used in teaching and training, wherein there is a progression from less relevant or more general examples to highly relevant or specific ones. This helps learners build context before reaching conclusions. Students may be taught to start with broader comparisons before focusing in on the most relevant or effective model.

Similarly, in scientific and statistical reporting, when evaluating multiple variables or experimental groups, reports often arrange findings by strength of correlation or relevance. For example, meta-analyses in medicine may list studies by increasing methodological quality or effect size.

In summary, this 'worst to best' method draws from ancient logic and communication strategies. It is used widely because it aligns with how people process evidence: show the range, rule out the weaker, and end on the strongest – making your conclusion both reasoned and compelling.

CONCLUSION

What has been explained here is a relatively straightforward three-step process:

1. Provide an overview of the most important characteristics of the subject, **relative to the particular comparable data set**;
2. Where there are more than three or four data pieces, **group them** into similar/related sets so that the appraiser's and the report user's working memory doesn't become swamped by too much data and is able to think through (or understand) them more effectively;
3. **Use classical rhetorical techniques** of eliminating (or minimizing) the weakest data first, reconciling steadily towards the best, most compelling, data and conclusions.

HYPOTHETICAL RECONCILIATION

Now that we have reviewed the framework, how might this look like in both a 'comprehensive' and 'concise' narrative appraisal of the same property, for a capitalization rate selection.

As a reminder, there are two approved formats for narrative reports, Comprehensive and Concise (*CUSPAP at 7.5.3*).⁸ Concise reports are generally suitable for frequent appraisal users, such as lenders, mortgage brokers, REIT's, etc., while Comprehensive reports are required for most other users and uses. For the Income Approach analysis, *CUSPAP Practice Notes*⁹ at 3.23.8 state a Comprehensive report must "Identify, describe and analyze ... with detailed rationale", whereas a Concise report must only "Identify and summarize ... [with] supporting rationale ..."

The hypothetical subject property is a 35-year-old 33,000 sq.ft. industrial building with useful surplus land resulting in a site coverage of 20%. In addition to 2,000 sq.ft. of standard main floor office, it also has 2,000 sq.ft. of good quality mezzanine office completed five years ago. It also has, somewhat unusually for this age, a 23-foot clear span ceiling. It is of average quality concrete construction and in average condition.

COMPREHENSIVE REPORT

The following sales have been identified as most relevant of those surveyed:

Subject		Sale 1	Sale 2	Sale 3	Sale 4	Sale 5	Sale 6	Sale 7	Sale 8
Sale Price, \$Millions: ➔ ➔		\$7.267	\$6.145	\$7.167	\$6.781	\$10.088	\$7.416	\$9.103	\$9.311
Land Area, Acres	3.79	1.66	1.43	1.48	1.41	3.01	2.20	3.76	2.38
Building Size, Ft ²	33,000	31,112	14,985	26,410	19,643	28,841	24,865	29,472	36,241
Site Coverage	20%	43%	24%	41%	32%	22%	26%	18%	35%
Building Age	35	33	11	27	18	17	25	31	39
Const. Type	Tilt-Up	Metal	Tilt-Up	Metal	Tilt-Up	Tilt-Up	Metal	Tilt-Up	Metal
Clear Span, Ft	23	19	22	20	22	22	20	20	20
% Office	12%	4%	17%	8%	16%	14%	10%	6%	7%
Cap Rate		5.98%	4.13%	5.49%	4.77%	4.64%	5.23%	4.95%	5.31%

These sales have a cap rate range from 4.13% to 5.98%, and an average of 5.01%.

SUMMARY OF IMPORTANT FACTORS

The subject property has several advantages over what is typical in this sector and local market. Compared to typical properties in this market, the subject has considerable useful surplus land (typical site coverages are 30-45%, versus the subject's more spacious 20%). This component has often proven – in addition to raising rental rates as discussed in the rent section – to lower capitalization rates, as buyers favour the flexibility for a variety of industrial operations as well as, importantly, the ease of re-leasing the property to a wider range of users should it turn vacant.

The capitalization rate is also likely to be compressed for the relatively over-height clear span ceiling (23 feet), since a less desirable 18-20 feet is more usual in this age bracket. Additionally, to a more limited extent, the modestly higher percentage of (good quality) office finish compared to market norms will also tend to modestly compress the cap rate.

Against those positive features, the subject building is older (35 years old) than typical in this general location (10-25 years is more usual), and the 33,000 sq.ft. size is larger than the 15,000-25,000 sq.ft. range frequently seen in this area. These two factors will tend to push the cap rate of the subject somewhat upwards.

REVIEW AND GROUPING OF COMPARABLE SALES

This analysis groups comparable sales to identify the most relevant indicators.

Group 1: Sales 1, 3, and 6

These comparables have cap rates ranging from 5.23% to 5.98%, with an average of 5.57%. These buildings are generally less comparable to the subject; while similar in age and somewhat smaller (average 27,462 sq.ft.), they lack the surplus land and over-height clear span of the subject and generally are of lower-quality metal frames. Notably, Sale 6, with a cap rate of 5.23% and low site coverage of 26%, shows how surplus land can compress cap rates. **Overall, the subject's cap rate should be below both this group's average and below Sale 6's 5.23%.**

Group 2: Sales 2 and 4

Sales 2 and 4 have an average cap rate of 4.45%, within a range of 4.13% to 4.77%. These are newer, smaller properties (average 17,314 sq.ft.) with more marketable sizes and lower sale prices, which can significantly lower cap rates. Their clear spans, though slightly below the subject's, are competitive, but they have less surplus land. **The subject's cap rate is therefore expected to be above this group's average of 4.45%.**

Group 3: Sales 5, 7, and 8

Sales 5, 7, and 8 are the most comparable to the subject. Their average cap rate is 4.97%, ranging from 4.64% to 5.31%.

- Sale 8 (5.31%): Larger and older than the subject, with lower clear span and higher site coverage. These qualities suggest the subject should not have as high a cap rate.
- Sale 5 (4.64%): Smaller and newer, with similar clear span and office finish, and site coverage of 22% (but not as low as the subject). This sets a lower bound for the subject's cap rate.
- Sale 7 (4.95%): Slightly smaller, similar in age, with the lowest site coverage (18%), but lower clear span and less office finish. These differences mostly offset, indicating a cap rate close to the subject's likely value.

CONCLUSION AND CAP RATE SELECTION

Group 1 comparables (#1, #3, and #6) indicates that the subject's cap rate should be below their average (5.57%) and below Sale 6's 5.23%. Group 2 comparables (#2 and #4) suggests it should be above 4.45%. Considering these findings, a general cap rate range of approximately 4.5% to 5.2% is supported.

The most relevant comparables (Group 3) further narrow the expected range to between roughly 4.7% and 5.1%. The subject is better than Sale 8, but not as good as Sale 5, inferring that somewhere in the middle of this range is appropriate. Giving the greatest weight to the most comparable sale, Sale 7, the final selected capitalization rate for the subject property is 4.9%.

FINAL CONCLUSION

Use the three-step method to strengthen your analysis, and compellingly convey your conclusions:

1. Provide an overview;
2. Group your data;
3. Follow classical rhetorical principles to both understand your data better and to convey your conclusions convincingly.

END NOTES

- ¹ Appraisal Institute of Canada (2024). *CANADIAN UNIFORM STANDARDS OF PROFESSIONAL APPRAISAL PRACTICE (CUSPAP)*. Effective January 1, 2024, 8.2.9, page 38.
- ² Appraisal Institute (2020). *The Appraisal of Real Estate*. 15th Edition.
- ³ Appraisal Institute (2023). *Effective Report Writing: A Guide for Appraisers and Reviewers*.
- ⁴ Lewis, David & Greene, James (1982). *Thinking Better*, McClelland and Stewart Ltd., page 27.
- ⁵ Miller, G. A. (1956). *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information*. *Psychological Review*, 63(2), 81-97.
- ⁶ Cowan, N. (2001). *The magical number 4 in short-term memory: A reconsideration of mental storage capacity*. *Behavioral and Brain Sciences*, 24(1), 87-114.
- ⁷ Baddeley, A. D. (1992). *Working memory*. *Science*, 255(5044), 556-559.
- ⁸ Appraisal Institute of Canada (2024). *CANADIAN UNIFORM STANDARDS OF PROFESSIONAL APPRAISAL PRACTICE (CUSPAP)*. Effective January 1, 2024, 7.5.3, page 31
- ⁹ Appraisal Institute of Canada (2024). *APPRAISAL INSTITUTE OF CANADA PRACTICE NOTES 2024*, Effective July 1, 2024, 3.23.8, page 46, <https://www.aicanada.ca/wp-content/uploads/2024-PRACTICE-NOTES-1.pdf> 