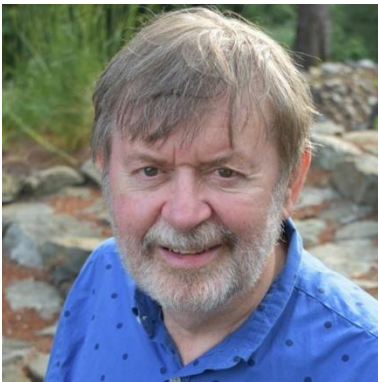


Critical thinking is a prerequisite for meaningful data collection!

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The Oxford English Dictionary defines critical thinking as "the objective, systematic, and rational analysis and evaluation of factual evidence in order to form a judgement on a subject, issue, etc."



When Wally Wells invited me to contribute an opinion piece to this edition, he said the newsletter theme is data management. So, I asked, what is the issue that you are highlighting?

Local governments need data that is meaningful for infrastructure asset management, Wally answered, but quality and usefulness have emerged as issues of paramount concern. Unfortunately, he added, we have stopped talking about THE SERVICES THAT ASSETS PROVIDE because asset managers have become preoccupied with THE ASSETS THEMSELVES.

Tell me more, I said. Wally then proceeded to explain that so much data is being generated by asset managers and in so much detail, yet the \$64,000 question is whether the data can even be trusted by decision makers. And if it cannot, then the issue quickly becomes one of trust in staff. Without trust, the decision process breaks down.

As I listened to Wally, my mind flashed back to what I learned from an American management consultant named John Rogers. A generation ago, we adapted his 6-step process and incorporated it in **Stormwater Planning: A Guidebook for British Columbia**.

Simply put, John Rogers identified a problem with system planning when data collection is disconnected from a clearly defined strategic purpose.

Through case study experience, he observed a recurring pattern of asset managers jumping in to immediately collect what turned out to be unhelpful data and then wondering why the process blew up politically. When that happens, elected officials lose confidence in the judgement of their staff.

That is why in the Stormwater Guidebook we introduced the **Seven Step Process** for watershed planning. It is of universal process application and is relevant to any aspect of asset management. Because the spotlight shines brightly on **critical thinking**, we added Step 7 to provide a feedback loop. You must have the ability to make course corrections!

Before collecting data, make sure you ask the right questions. As shown on Figure 1, collecting data is Step 4. The first three steps are so much more important. And that goes to the heart of Wally’s important distinction between the service and the asset. Don’t jump directly to Step 4!

Be clear on why data is needed. What is the desired outcome? How will you use the information or data? Will it help you make better decisions? How much and what kind of data do you actually need? Does the cost meet the test of being affordable and effective? What are the trade-offs between risk, complexity, and cost?

When data collection is undertaken in the absence of critical thinking that addresses questions such as the foregoing, one runs the risk of “analysis paralysis” or “garbage in, garbage out”. And those situations are to be avoided because they are unlikely to end well.

