

Do Your Homework

Too often, when faced with some direction or guidance from a supervisor or a training instructor, many of us will retort with a variant of, “but I was always told that...” Now, back in the Dark Ages of 1997, we could sort of get away with that. But, we really have to stop that.

It’s 2019 and many of us have resources on our belt or in our pocket or purse with more computing power than all of the NASA spacecraft ever launched (sorry, NASA). More importantly, the World Wide Web (no, it’s not just for looking up baseball statistics) has opened up an information highway that is progressively taking away our excuses for not knowing, sticking to our gut feel, or relying on what our first supervisor told us when we joined the team twenty years ago. The world has moved on and we should move with it.

Let’s start with construction documents. If you are an owner’s representative, inspector, quality assurance technician, or other part of a project team, you have to read and understand the construction plans and specifications, together with all the other referenced contract documents, including general specifications. No matter how similar this project is to one you worked on last year, your effectiveness depends upon knowing exactly what was designed and is required on this job. You should leave nothing to chance.

Next, there are reference documents that are essential to understanding engineering guidance, best practices, and requirements. Historically, they were bulky and expensive. These days, some of them are now available online and for free. Some still are costly for reasons surpassing understanding, but if you need them, our Municipal Engineering Circuit Rider can likely access them and share them; more on that later.

An example of on-line references that just about all of us should be familiar with is the Delaware Manual on Uniform Traffic Control Manual. First, like its federal origin, it is available for free [online](#). Yes, it is lengthy. There are many words, but the good news is there are LOTS of pictures. More importantly, the MUTCD is a reference document and the idea is to use it as one; not memorize it. Your goal should be to understand what it contains, how it is organized, and where it applies. Well, the last one is easy – it applies to every road in Delaware open to the public. Let’s imagine your problem today is whether chevron signs are required on one of your curves. Because the MUTCD is online, you can search the Part 2 (Signs) for “chevron” and suddenly, you’re learning. Interestingly enough, the Delaware T²/LTAP Center has a training workshop that helps you understand the more common elements of the Delaware MUTCD; watch out for it.

Another commonly needed reference (and one that can be used for non-DelDOT projects also) is the [Standard Specifications](#) for Roads and Bridge Construction. This one is big, too – 617

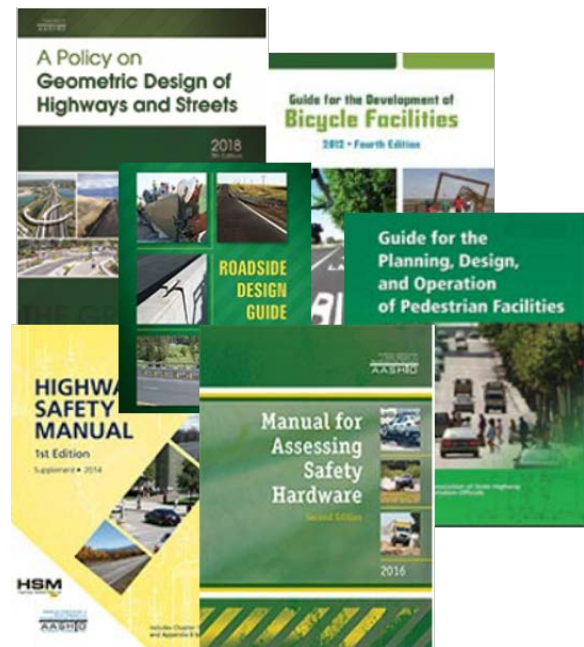


pages currently. Guess what? You don't have to read it all on this project. Only the geekiest of DelDOT folks have ever read all of it (no offense Spec Nerds). But your project may reference a number of parts of it. Maybe you are inspecting an asphalt pavement job. You will want to read Division 100 (General Provisions), Division 400 (Bituminous Materials; well, really just Section 401 in most cases), and then you will see that Section 401 sends you to Sections 1010, 1011, 1012, 1014, and 1042 for some Materials homework. You might have to checkout a cross link here or there, but that's it. Why would you ever resort to, "I was told that..." when you can look it up for yourself and point at the chapter and verse that backs up your point?

The companion to the Standard Specifications is Standard Construction Details, also available free [online](#). Now these are good lunch time reading. Seriously, standard details are the kind of thing you want to relax with over a good cup of coffee and take in each note and each cross reference. That's how you really figure them out...until they change them again. But, they are called details for a reason and in construction, details matter, so don't gloss over these.

In terms of Delaware-specific documents, there are a number of great DelDOT [references](#) you should at least be aware of (and it can't hurt to browse through them at the beach this summer). For example, the Pedestrian Accessibility Standards ([PAS](#)) is essentially a pamphlet at 70 pages (when you take away the cover page, table of contents, and, seriously, pages reserved for future use?) and there are multi-color pictures that can clear up a lot of questions you've had about ADA in the public right-of-way. Another one is the Delaware Traffic Calming Design [Manual](#); if you are one of those rare local agencies that receive complaints about reckless vehicular traffic in their neighborhood, this manual is a toolkit with which you should be familiar. You may also have occasion to need the Development Coordination [Manual](#) or the Utilities [Manual](#), all free on line and searchable.

There are, unfortunately, a number of documents that local agencies should have access to that are not free, online, or accessible. The Delaware T²/LTAP Center keeps many of the more common references on hand and our Municipal Engineering Circuit Rider can help you out if you need a look at them. For example, AASHTO's A Policy on Geometric Design of Highways and Streets has critical guidance for intersection control, safe stopping sight distances, and so on. Their Roadside Design Guide is critical for understanding and applying the Clear Zone concept and their Manual for Assessing Safety Hardware (MASH) is the new standard for, among other things, crashworthy elements we install in the Clear Zone. The Guide for the Planning, Design, and Operation of Pedestrian Facilities and the Guide for the Development of Bicycle Facilities are a great review for developing and enhancing those facilities. The Highway Safety Manual has some complicated equations in



it, but otherwise, it's not nearly as scary as it looks.

Has it been a while since you have browsed some of these titles that are relevant to what you do or topics you get drawn into? Why not add one or two to your summer reading list? Think how smart you'll look on the beach (again, fingers crossed for this summer) curled up with an online version of the Standard Details. Spend an hour with one of these and you'll be better prepared for your next project. And, the next time someone asks about the proper use of yield to pedestrian signage, you won't say, "I heard that you can't..." Instead, you'll say, "well, Section 2B.11 of the Delaware MUTCD says..." And you'll be right.



Earlier, we talked about construction plans, and for those who may be new to construction plans, they can be a bit daunting; indeed, they freak some of you out at first. That's not unusual but don't let it hold you back. The Delaware T²/LTAP Center offers a half-day training workshop once or twice a year to help beginners get comfortable with construction plans and you should sit in on it the next chance you get (fingers crossed – this fall). You will be a lot more comfortable after this training course, so look for it.

If any of this prompts you to think that you need some training on these, contact Sandi Wolfe at sandiw@udel.edu and let her know. We may have training coming up in these areas and if not, we will try to put something together or connect you with an online source that be of help. Our Municipal Engineering Circuit Rider is intended to provide technical assistance and training to local agencies and so if you have questions about these resources or other transportation issues, contact Matt Carter at matheu@udel.edu or (302) 831-7236.