Have you ever looked at your town or city and wondered why it has developed in the way it has? Developers operate by profit motive — they will build whatever is most profitable. Market demand depends on what land is available and what is permitted to be built. Local governments steer the process using a combination of big-picture plans and highly specific bylaws.

Lost in the middle of this land development dynamic — somewhat obscured, sometimes overlooked, but always crucial — are urban infrastructure needs. These are the systems and facilities necessary for built structures and human habitation — roads, water, sewers, and drainage of the traditional ‘public works,’ plus more contemporary needs for power, natural gas, telephone, and cable television systems, and perhaps even including parks, schools, recreation facilities, libraries, hospitals, ambulances, police cars, and fire trucks. Infrastructure covers all of the modern requirements and conveniences of urban life!

If you want to know more about the systems that make cities work, then the CPD 119 & 120 Urban Infrastructure courses might be for you. These courses highlight the engineering that underlies daily urban life, answering questions such as:

- How are our modern roadways defined by the width of Roman chariots?
- Why are alleys no longer demanded in modern subdivisions?
- Why are street lamps set up the way they are and who owns them?
- What is the reason for those big water towers and why do some towns have them and others not?

- If sewer pipes require downhill flow, how does this work in flat areas?
- We begin with early mankind’s nomadic existence, slowly evolving into social gatherings and with it a need for water sources and dealing with the polluting by-products of our communal lives. The first recorded city was planned 4,600 years ago, housing up to 80,000 people with well water supply, covered drainage/sanitation system, and a grid street network. The Romans advanced urban infrastructure with their aqueduct systems and road construction technology. China built its Great Wall in the 3rd century BC, along with bamboo suspension bridges and canals for transportation and flood control. The advent of gasification, electrical power, and telephone in the mid 1800s pushed us towards the modern city we know today.

With an understanding of why the provision of infrastructure is necessary and where it enters into the context of land development, real estate professionals are better equipped to deal with both local governments and market participants. In particular, in situations where infrastructure requirements become a ‘sticking point’ for development, the reader will more clearly understand the underlying motivations of the parties involved and perhaps more readily pursue alternatives towards resolution and an ultimately successful project.

Brief course outlines are as follows:

**CPD 119: Urban Infrastructure Policies**
Focuses on planning and policy considerations underlying land development. Explores federal, provincial, and regional controls and the role of public participation in shaping subdivision and servicing policies. The materials also delve into the financing considerations of urban infrastructure — who pays for it and how much it costs.

**CPD 120: Urban Infrastructure Applications**
Builds on CPD 119 in detailing the physical infrastructure components necessary for real property development.

- Road networks, including history, importance in modern land development schemes, and installation standards.
- Water and sanitary sewer needs.
- Typical servicing requirements with a discussion of drainage, street lighting, and other systems.

Keep in mind that these courses intend to offer a fairly quick and light overview of a highly complex topic area. The content could be described as broad rather than deep, meaning the courses comprehensively cover the topic areas, but nowhere near the level required for qualified civil or mechanical engineers. At best, these courses offer a primer, with a goal that real estate professionals will be more knowledgeable about infrastructure needs and better able to speak about these needs intelligently and with confidence in practical situations. Similar to that old movie, “Everything you always wanted to know about infrastructure (but were afraid to ask)” — if you need to know more about what goes on beneath and around real estate development, now is your chance to find out.