



## LEAN IN ROAD OPERATIONS & CAPITAL PROJECTS

A one-day seminar offered in collaboration with QCDMS Consultants.

LEAN 6 Sigma and Project Management are proven approaches to improve efficiency and outcomes in a broad range of processes and industries. In this introductory seminar, you will learn the basics of these methodologies and how to apply them in road operations and capital projects, to do more with less without sacrificing quality. Individuals who successfully complete this one-day course will earn a White Belt certification in LEAN 6 Sigma.

### BACKGROUND

#### What is LEAN Six Sigma?

LEAN Six Sigma is a methodology that relies on team-based problem solving and process improvements, to improve an organization's performance by removing waste, inefficiencies, roadblocks and bottlenecks, and by reducing variances from approved processes and project plans. It combines the LEAN and Six Sigma continuous improvement methodologies, which were developed at Toyota and Motorola respectively.

On a daily basis, Road Managers and Supervisors oversee a wide range of operations, including road grading; roadside mowing; shoulder and ditch maintenance; tree planting, removal and trimming; sign maintenance; sanding, salting and plowing; sidewalk maintenance (winter and summer); dust control; culvert and catchbasin maintenance, repair and replacement; bridge inspections, cleaning and maintenance; pavement patching; winter and summer patrols; and more.

These Managers and Supervisors are looking to:

- Improve quality
- Reduce cost
- Reduce delivery times or lead times
- Enhance customer and employee satisfaction and morale
- Improve safety
- Mitigate environmental impacts

Trainees will be able to achieve these goals, or Key Performance Indicators (KPIs), by mapping their existing processes, identifying waste and inefficiencies, and implementing incremental process improvements.

#### What is Project Management?

A project is temporary in that it has a defined beginning and end in time, and therefore defined scope and resources. And a project is unique in that it is not a routine operation, but a specific set of operations designed to accomplish a singular goal. Examples of projects in a Roads Department include most capital projects: construction or reconstruction of a roadway, construction or rehabilitation of a bridge, installation or replacement of buried infrastructure. It could also include an unplanned event, such as the relief effort after a natural disaster. A project team often includes people who don't usually work together – sometimes from different organizations. Projects must be expertly managed to deliver the on-time, on-budget results, learning and integration that organizations need. Even if a project is being delivered by a third party, the Road Manager / Supervisor must oversee the project and ensure it is being managed properly.

Project management, then, is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.

Project Management has been practiced informally since the beginning of time, but began to emerge as a distinct profession in the mid-20th century. The Project Management Institute's *A Guide to the Project Management Body of Knowledge* (PMBOK® Guide) identifies the recurring elements of a project: Project management processes fall into five groups - Initiating, Planning, Executing, Monitoring, and Controlling and Closing

Project management knowledge draws on ten areas - Integration, Scope, Time, Cost, Quality, Procurement, Human Resources, Communications, Risk Management and Stakeholder Management. Road Managers and Supervisors will become familiar with Project Management basics and will be able to review a case study and utilize templates, applying them to their own projects.

## **COURSE OBJECTIVES**

The seminar will be delivered in two parts: LEAN in Operations, and LEAN in Capital Projects, with a focus on operations and capital projects in a municipal roads environment.

### **Part 1 – LEAN in Operations**

#### **Objectives:**

- Understand the basics of LEAN Six Sigma
- Understand how LEAN Six Sigma can be applied in road operations
- Learn to find waste and variation
- Learn to make daily small process improvements
- Overview of LEAN daily management

### **Part 2 – LEAN in Capital Projects**

#### **Objectives:**

- Understand the basics of Project Management
- Understand the need for planning and daily monitoring of projects
- Overview of PMP (Project Management Professional) Certification
- Learn to find waste and variation in projects
- Understand the meaning of a successful project- a project that is completed in scope, schedule, budget and quality

## **ABOUT THE INSTRUCTOR**

Charanjit (C.J.) Singh Bawa, PMP, Black Belt, Certified Scrum Master, Change Agent and Group Facilitator

C.J. is an Authorized Training Facilitator and Authorized Training Partner for PMI USA and this 2021 PMP® Introduction course can ONLY be delivered by professionals like C.J.

C.J. has 26 years of multidisciplinary experience in the private and public sectors, including manufacturing (several automobile manufacturers), healthcare, construction, finance, and municipal operations (City of Mississauga). C.J. is now a principal of QCDMS Consultants.

He is a mechanical engineer, and has taken extensive training and acquired certifications in many areas including project management, LEAN, change management, and facilitation.

Drawing from his education and his practical experience, C.J. has developed and delivered hundreds of training courses to thousands of individuals in the areas of Project Management, LEAN 6 Sigma, Change Management, Leadership, among others.

He has also done public speaking for numerous organizations, including PMI (Project Management Institute), APICS (American Production and Inventory Control Society), ASQ (American Society for Quality), and OACETT.