



## Site/Infrastructure Planning

Lean Enterprise Consulting

**Client**  
PACCAR

**Location**  
North America and Europe

*"Today the plant stands as the most modern truck facility within PACCAR. The plant is the model for new approaches in human resource management and material logistics. PACCAR and CH2M HILL Lockwood Greene benefited from a partnership that stretched thinking on the conceptual phase and integrated design with construction, ultimately bringing the project to completion in record time."*

— Project Manager, PACCAR

## Lean Transformation Program

### Project Description

Led by CH2M HILL Lockwood Greene, PACCAR's Lean Transformation Program is a multiyear effort addressing the company's heavy Kenworth and Peterbilt truck manufacturing and assembly operations at multiple production plant locations in North America and Europe. This production program involves program management services, lean manufacturing analyses, cellular designs, production equipment assessments, extensive facility modification design packages, and construction phase support services. As part of the program, several of CH2M HILL Lockwood Greene's lean manufacturing practice modules are being showcased, including several that are copyrighted.

The lean transformation involves extensive lean analyses of PACCAR's heavy truck assembly lines in each plant, material flow studies, equipment surveys and assessments, equipment refurbishment, new equipment procurement specifications, lean/cellular designs for production and assembly operations, detail design of equipment packages and systems, design of extensive facility modifications needed to implement the lean transformation, construction cost estimates for the facility modifications, implementation schedules, and construction sequencing to minimize disruption to ongoing production work.

Uniquely challenging in PACCAR's program are the cultural differences that exist at each site, which needed to be overcome during lean analyses, cellular design, and implementation. PACCAR also requires extensive evolution planning of each facility to show the work that will be accomplished at each stage and demonstrate the reality of the schedule and programmed work.

In addition to providing lean enterprise consulting services, CH2M HILL Lockwood Greene teamed with Stendel & Reich Architects of Montreal, Quebec, to execute the modernization of PACCAR's Ste. Therese truck plant, including a 155,000-square-foot addition. The existing plant was recommissioned to produce Kenworth-Peterbilt Class 7 and 8 trucks after being closed for a period of 2 years. Services provided included concept design, project management, detail facility design, and process engineering of assembly.

Examples of the value added by CH2M HILL Lockwood Greene included:

- Visioneering (CH2M HILL Lockwood Greene's innovative strategic planning process) sessions held with all project team members developed the conceptual requirements and design criteria for the modernization, improving communication between team members, saving considerable design time, and minimizing change orders.
- Increasing productivity by improving process layout and building orientation design.



- Developing plant equipment and facility standards that reduced maintenance costs, increased the interchangeability of spare parts, and improved safety.