

Exsys Case Study

Equipment Selection for Highway Construction

*American Association of
State Highway and
Transportation Officials*



One of the most common methods used in stabilizing earth fills is to compact soil in thin layers by using compacting equipment. Choosing the most appropriate compactor under a given set of job conditions is a typical problem that construction or highway engineers face when working on highway or other earth-moving projects.

A knowledge automation system was developed that helps the construction or highway engineers choose the most appropriate compactor under a given set of job conditions. Selecting a suitable compactor is affected by numerous field variables. The knowledge automation system is well suited for formulating and organizing this type of experience-based knowledge.



The system takes into consideration:

- ◆ The degree of compacting required
- ◆ Job size
- ◆ Soil type
- ◆ Plasticity
- ◆ Moisture conditions
- ◆ Breakage of aggregates

The knowledge automation system recommendations specify standard AASHTO densities to jobs, and is used as a tutorial tool for inexperienced personnel. The information provided is enhanced by scanned images of various types of equipment.



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