

# Accelerated Bridge Construction

Population growth and demand for infrastructure are exceeding our ability to construct new infrastructure without significant impact to nearby economies and the traveling public. In order to enhance mobility and speed up bridge construction several accelerated bridge construction (ABC) techniques have been developed.

ABC aims to more fully utilize existing technology in unique ways to speed up bridge construction, and to develop new technology. Some of these technologies include precasting concrete members, prefabricating larger portions of bridges off site, and installing them in larger sections with larger cranes or Self-Propelled Modular Transporters (SPMT). ABC minimizes traffic disruptions by moving construction activities traditionally done on site, to off site. It also allows many portions of a bridge to be constructed concurrently with other activities that may not have otherwise been done at the same time.



The use of Norlite lightweight aggregate in lightweight concrete for accelerated bridge construction (ABC) can be a major benefit to the designer. The lightweight concrete produced can decrease the weight of the precast elements by over 20%. The use of lightweight concrete in prefabricated bridge elements and systems (PBES) offers many benefits including:

- Larger elements can be transported due to reduced weight
- Smaller crane requirements due to lighter elements
- Less weight for self-propelled modular transporters (SPMTs) to lift
- Better hydration of cement and SCMs due to internal curing
- Improved durability to normal weight concrete elements
- Reduced chloride intrusion