



Dar Al Riyadh Insight #43

Logistics – Inventories

Dar Al Riyadh Insights reflect the knowledge and experience of our Board, executives and staff in leading and providing PMC, design and construction management services. Dar Al Riyadh believes in the importance of broadly sharing knowledge with our clients and staff to improve project outcomes for the benefit of the Kingdom of Saudi Arabia.

Inventories may be stored at or obtained from multiple locations throughout the logistics chain. An important question to be addressed is: where is the most desirable point in the logistics chain for such inventories? Just-in-time supply chains have relied on vendors maintaining inventories to meet both the project's needs as well as that of other customers. In the COVID-19 pandemic, the industry witnessed the vulnerabilities of over-reliance on suppliers as a single point of inventories. Similar impacts are noted when major adverse weather events occur. Inventories may also be held at consolidation centers and off-site warehouses as well as on-site warehouses and laydown areas. Inventories act as buffers against risks (such as accelerations, late deliveries, necessary resequencing, etc.) and the inventory strategy is important to think out on a complex project.

Irrespective of where inventories may be held, **transport** to and from these intermediate or endpoints is a major element of logistics management. Transport along the logistics chain may require a combination of:

- Ocean transport
- Special marine vessel transport
- Barge transport
- Air transport
- Rail transport
- Highway and off-road vehicular transport
- Self-propelled modular transporter (SPMT) or other specialized transport

In addition to these various forms of horizontal transport, vertical transport will most likely be required. These can include marine shipping cranes and crane loading of rail and road vehicles.

Packaging of items in transport may include bulk and containerized cargo as well as shipping of large-scale modules.

Transport considerations must reflect the different modes through which the item of supply will transit; weight and dimensional limitations at each stage; any special environmental considerations along the transport link (marine environment; excessive heat or dust); and whether the transport packages represent singular items of supply or a consolidated shipment. The consolidation of shipments is a key consideration, where one is paying for shipping volumes (within weight limits), such as seen in a marine container or



truckload, and in physically constrained links along the supply chain (port or railroad capacity limitations; last-mile delivery truck and driver constraints; and physical access limitations to the site).