

UNDERSTANDING SUPPLY CHAIN CRISIS

Key Messages

- Type A Market is highly dependent on chassis manufacturing
- Type C & D Market is dependent on imports of materials from Europe & Asia which have been affected by world affairs in Ukraine & China
- Production is based on availability of parts to complete the vehicles.
- School Bus Manufacturers have record high backlogs and near low productions
- US Inflation is at an all-time high

TYPE A School Bus

- Highly dependent on production of chassis from Ford & GM
- Ford & GM have moved to an allocation model of distribution which will significantly impact inventory
 - *Percentages of allocations are projected to be built by month*
 - *Allocations are based on historical sales to fleets*
 - *There is no more “stock” in the eyes of the manufacturers*
- Considerable price increases on Chassis and the elimination of manufacturer rebates. 30-40% price increase year-over-year
- Historically, the school bus has been 12-18 months behind the car automotive industry. Car industry projects 2025 regularity

Type C & D School Bus

- The inability to get parts is causing longer lead times for production
 - *Built buses sit “In Production” or “Off Floor” on production reports, and sit in the parking lot until all parts are put on the bus*
- Diesel & Gas Bus: Minimum of 8-10 months
 - *Cummins has cut production of engine and componentry by 30%, which restricts the manufacturers from building*
- Electric: Minimum 10-12 months
 - *Shortages on Lithium and rare earth minerals needed. Prices going up.*
- Type D: High Complexity & Low Volumes are causing significantly longer lead times than Type C

Some Examples of Increases

Component	Increase over Last Year
Steel	127%
Aluminum	52%
Fiberglass	22%
Paint / Chemicals	9%
Door and Window Components	24%
Inbound Freight	73%
Floor rubber	7%
Windows	30%
Wire Harnesses	15%
Labor Wages and Benefits	25%

What does the future hold?

- Short Term: Extended Lead times until supply chain regulates over the next 2-3 years
 - *Production Backlogs are at historical highs.*
 - *Historically ~30,000 buses built every year, this year ~18,000 buses built*

- Long Term: Increased costs due to limited current production for the next 3 - 5 years.
 - *If inflation regulates or comes down it is possible that the manufactures will never decrease price, but rather increase at a slower rate*

- A transition to Electric Vehicles in New York State
 - *Grant Funding and Infrastructure is going to be critical*

How to plan for the future?

- Plan early, plan now

- If you are bidding on a new work, the days of ordering a bus in May, June, or July, and getting the bus in September are long gone.
 - *October is the new May*

- If a contract is on its last year, it believe it may retain the work and need new buses for the contract, there is a level of risk that the contractor and the dealer will have to work together on.
 - *Budget and engage your bus distributor early on in the process.*