

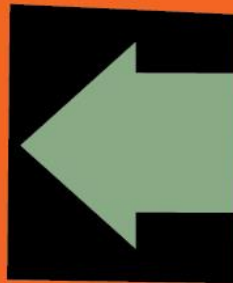
# BUSES & BUSES & BUSES!

+ technology + networking + education

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OCTOBER 1-3, 2018  
INDIANA CONVENTION CENTER  
INDIANAPOLIS

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# *IndyGo*<sup>SM</sup>

## **LONG TERM CHARGING PLANS**



# VICKI LEARN - INDYGO

- DIRECTOR OF FLEET SERVICES & INVENTORY CONTROL
- BEEN WITH INDYGO SINCE 2009
- RECEIVED A \$10M TIGER GRANT TO START THE ELECTRIC VEHICLE PROGRAM IN 2012
- PUT REMANUFACTURED LONG RANGE ELECTRIC BUSES IN SERVICE IN 2014





# FLEET MAKE UP

- 31 BUS ROUTES
- ~ 10 MILLION PASSENGER TRIPS ANNUALLY
- OVER 500 INDYGO EMPLOYEES
- 159 FIXED ROUTE DIESEL, HYBRID, & ELECTRIC BUSES
- 31 FULLY ELECTRIC 60 FOOT BRT BUSES ON ORDER



# INFRASTRUCTURE

- KNOW YOUR FACILITY FOOT PRINT RESTRICTIONS
- 5 YEAR PLANS ARE **INSUFFICIENT** FOR A 12 YEAR BUS
- LOOK AT YOUR 12 YEAR GROWTH PLAN OVERALL
- PREPARE A CHARGING REDUNDANCY PLAN
- YOUR POWER COMPANY NEEDS TO HELP YOU PLAN



# BUS OPTIONS

- LONG RANGE
- SHORT RANGE
- IN-ROUTE CHARGING
- INDUCTIVE CHARGING
- END OF LINE CHARGING



# CONSIDERATION DESIGNS

- DEVELOPING BUS RFP'S WITH POSSIBLE FUTURE CHANGES
- TECHNOLOGY KEEPS CHANGING
- BUS MARKET IS RAPIDLY GROWING WITH NEW AND/OR IMPROVED OPTIONS, ESPECIALLY FOR SAFETY



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# DISRUPTERS

- NEXT BIG DISRUPTER WILL BE AUTONOMOUS VEHICLES
- FIVE YEARS IS THE NEXT ACHIEVABLE GOAL FOR TRANSIT INDUSTRY WITH AUTONOMOUS BUSES
- BRT AUTO-DOCKING WILL BE A BIG PLUS FOR EFFICIENCY
- LABOR SHORTAGES ARE REACHING CRITICAL IMPACTS TO ALL AGENCIES/AUTHORITIES





# LESSONS LEARNED

- BE PROACTIVE WITH YOUR UTILITY COMPANY PRIOR TO JUMPING IN WITH BOTH FEET
- EMPLOYEE BUY-IN IS CRITICAL FOR A SUCCESSFUL PROGRAM
- BUILDING FOOT PRINT NEEDS TO BE RECOGNIZED PRIOR TO IMPLEMENTATION.
- CONSIDER OVERALL SPACE NEEDS FOR BOTH INSIDE OR OUTSIDE PRIOR TO IMPLEMENTATION
- SCALABLE PROGRAMS WORK THE BEST WITH SMALL TO MID-SIZED FLEETS



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