



# Keys to a successful bus operation

A look at facts, buses, fuels and bus drivers



# Keys to a successful bus operation

- 8:30 Facts your board should know
- 9:00 How old is too old (the buses) and purchasing your next bus
- 9:30 Choosing your next fuel source
- 10:00 Driver recruiting, training, and in-service



# Keeping your board out from “under the bus”

- Understanding the industry
- Community benefits
- Minimum required services
- Local control
- Costs and funding
- Key facts to have a grasp on



# Industry overview

- Ohio:
  - 800,000 children transported daily
  - 14,000 buses on routine daily routes
  - 1,000,000 miles travelled daily
- Nationally:
  - 25 million children riding
  - 480,000 buses
  - 10 billion passenger trips annually
- School transportation is the largest mode of transportation in the U.S.



# Community benefits

- Each school bus lost requires 35 cars
- Consider the resulting:
  - Congestion
  - Dependence on fuel
  - Wear and tear on our roadways
  - Time investment by parents to get children to and from school
  - Additional traffic crashes and injuries



With bus service . . .



... without.





# Cars vs. Buses: Cost?

- 14,000 buses = 545,000 cars
- Buses are economical because of their capacity
- Cost of fuel per student per year
  - Bus: \$88
  - Car: \$235



# Parent surveys - positives

- Convenience – no parent travel required
- Essential when parents are not available
  - Other children in home, jobs, lack of a car
- Maximizes student safety
- Dependable – shows up each day, every day





# Parent surveys - negatives

- Concerns with bus discipline
- Concerns with drivers
- Concerns about safety when they see accidents on the news
- Concerns when the bus is no longer available



# Who do you have to transport?

- All special education students with an IEP that requires transportation accommodation
- Students in grades K-8 who live more than 2 miles from their school
- Students attending any vocational, nonpublic, community or STEM school approved by ODE



# Exceptions

- Nonpublic and community schools must be within 30 minutes of the child's home school to be eligible
- Students are only entitled to transportation on “same basis”
  - Eligibility distance and grades



# What is “same basis”?

- If you transport public high school students, you must transport nonpublic and community school high school
- If public students walk 2 miles to their school, the same applies to nonpublic and community school students



# Permissive Service

- You may transport more than the minimum requirement
- You may or may not be funded for it
  - 1 mile or less from school
  - More than 30 minutes from school
  - Non-chartered
- Must observe “same basis”



# What about “Impractical”?

- Ohio’s revised code allows boards to declare transportation impractical in certain cases
  - Typically low numbers of students
  - Schools scheduled at a conflicting time
  - No buses available
  - No alternative services available



# Local control – what is at the board's discretion?

- Eligibility distance for a bus ride
  - Mileage from school of attendance
- High school transportation
- Ride time on the bus (no state limit)
- Public attendance times (but not those of nonpublic, vocational, charter school)



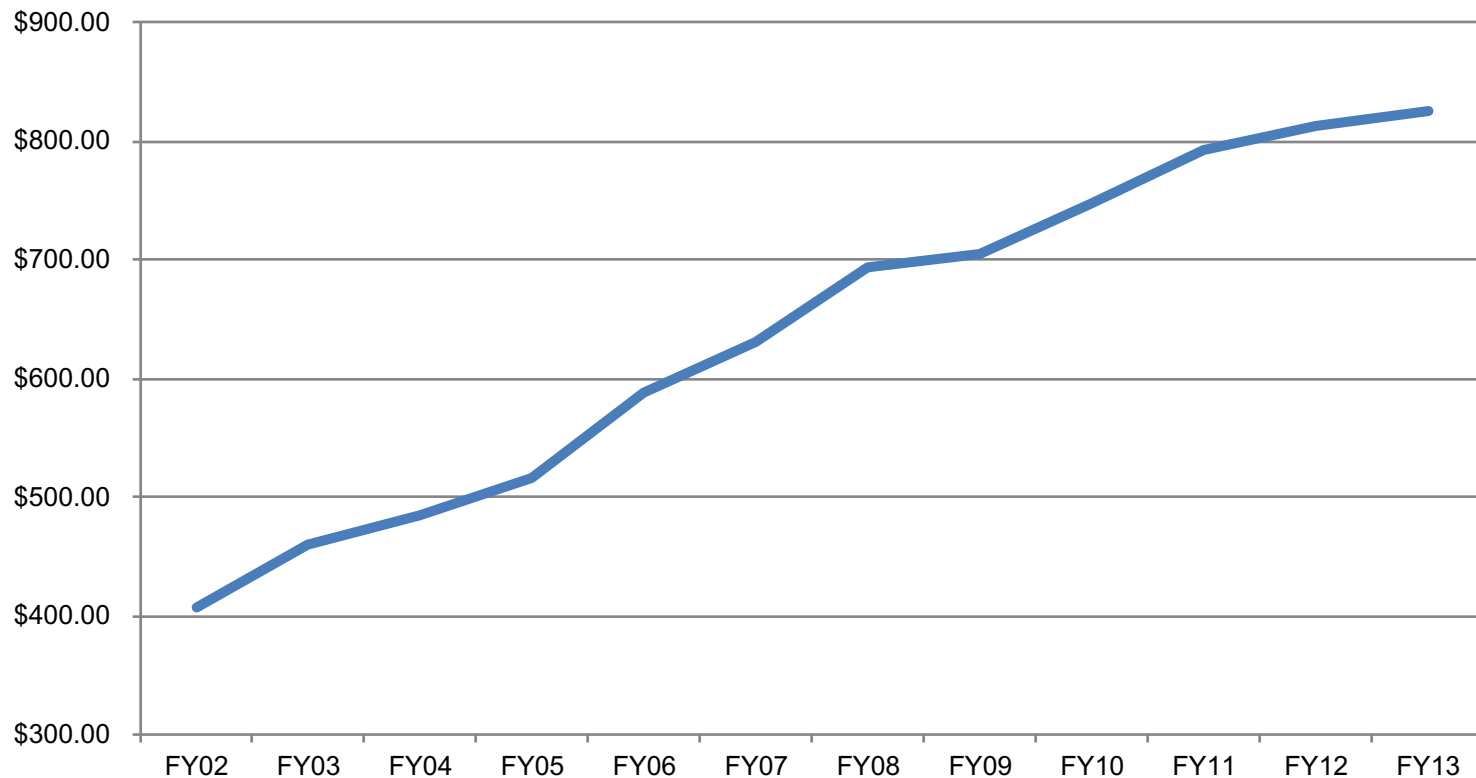
# Costs and funding

- Key state data:
  - \$ 50,000 : operating cost per bus per year
  - \$ 90,000 : cost to purchase a new school bus
  - \$ 865 : Cost per student per year for 2015
  - 12,000-14,000 : Average miles per bus per year
  - 30 : average number of students per bus trip
  - 44 : realistic capacity of a typical school bus
  - 4 : trips per day for average school bus



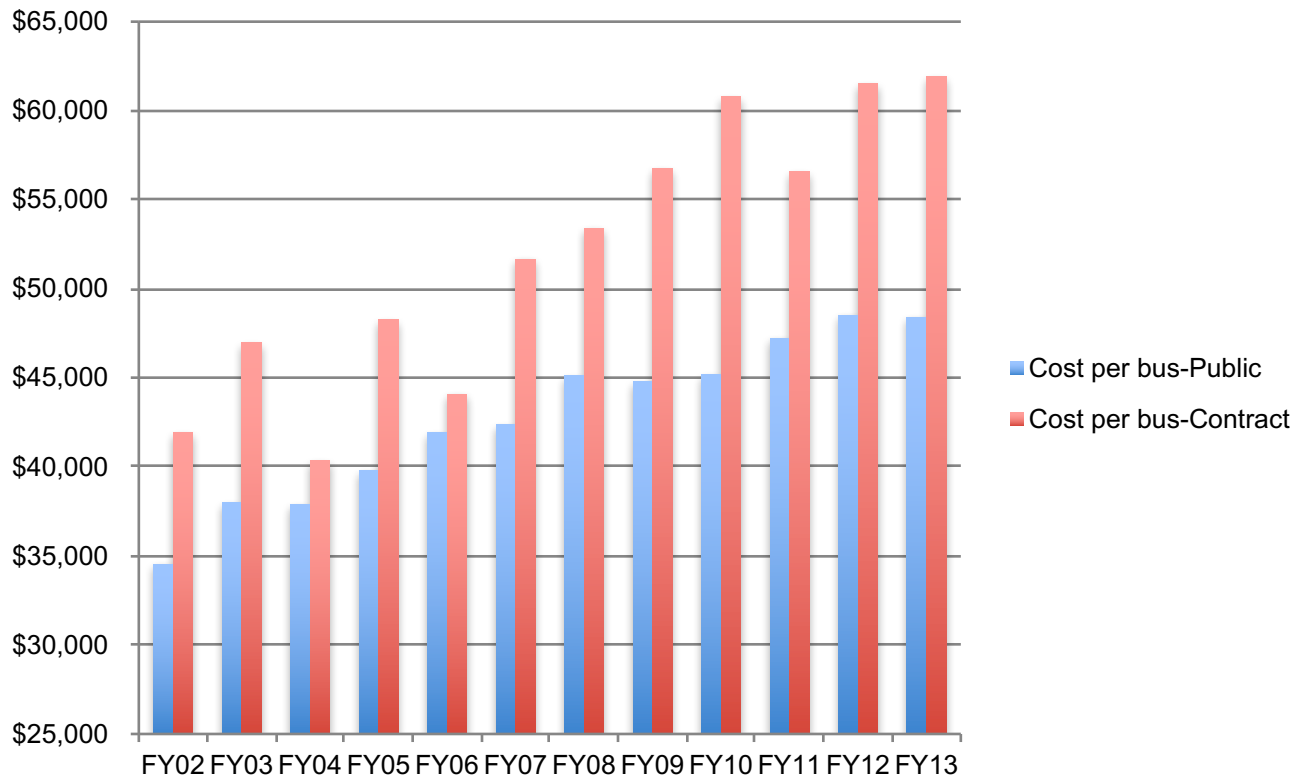


## Cost per student-public yellow bus





# Annual operating cost per bus





# Is there state funding?

- Yes, but . . .
  - Calculated at 50% of the average cost experienced by our districts
  - Based on data collected on the T1:
    - Students per day
    - Miles per year
  - Bus purchase funding: \$0



# The common concerns

- Location of the bus stop
- Concerns about length of ride
- Concerns about 'overcrowding'
- Student discipline on the bus
- Lack of a bus when transportation is cancelled



# The basic metrics:

(What should the board know?)

- Average age of your bus fleet
- Average cost per bus per year
- Average riders per bus
- Current eligibility policy, and why
- Summary of district's annual driver training program
- Average number of miles between accidents/incidents . . . Or better yet, number of miles since the last accident!



# Consider regular reports

- Keep the school board informed
- Report on highlights and positives
- Address the challenges
- Be factual and realistic
- Remember the “no surprises” rule



How old is too old  
(the buses, that is . . .)



# Cost impacts

- All state funding for buses was eliminated in 2009
- EPA clean air standards implemented in 2004, 2007 and 2010 resulted in drastic price increases for buses.





# The results . . .

- Districts have less funds available to purchase buses
- Bus costs grew from \$50,000 in 2005 to \$80,000 in 2011
- Ohio's bus fleet grew older and replacements slowed down



# The secondary results:

- Aging buses are more costly to operate
- More mechanical labor is required to maintain the fleet
- Buses begin to require extensive repairs







- Districts resort to extreme repairs





# Just one example . . .

- The last slide is a 12 year old bus
- “In house” repair taking 5-6 months and \$6000 - \$7000 in parts – just for body work
- Transmission replacement in 2 years now adds \$3000 more



# What else is lost?

- Fuel economy
  - Buses built circa 2000 get 4-5 mpg
  - Buses built after 2013 get 8-12 mpg
- Newer buses are more reliable
  - Less time between failures
- Newer buses typically have newer safety features for students



# How do we turn this around?

- Look at the big picture
  - What is cost effective?
  - What is costly?
  - What do we need to do differently to get out of the practice of repair maintenance, and into the practice of preventive maintenance?



# Fleet replacement plans

- Short term –
  - Dig out of the vicious repair cycle
  - May require a quick purchase of a number of buses
- Long term
  - Replace buses in a systematic manner
  - Understand the costs of deferred purchase





# How to build your bus plan?

- Analyze your fleet costs
- Right size your buses for your district
- Run the right number of buses for your district
- Identify remaining life cycle costs for your oldest buses



# Calculating your life cycle costs

- Maintenance cost per year:
  - Repair cost on older bus: \$5,000 or more
  - Preventive maintenance cost on newer bus: \$1000 or less
  - Total the difference in costs for the next 5 years
- Fuel Economy
  - Older bus gets 4-5 mpg
  - Newer bus gets 8-10 mpg
  - Total the difference in fuel cost for the next 5 years

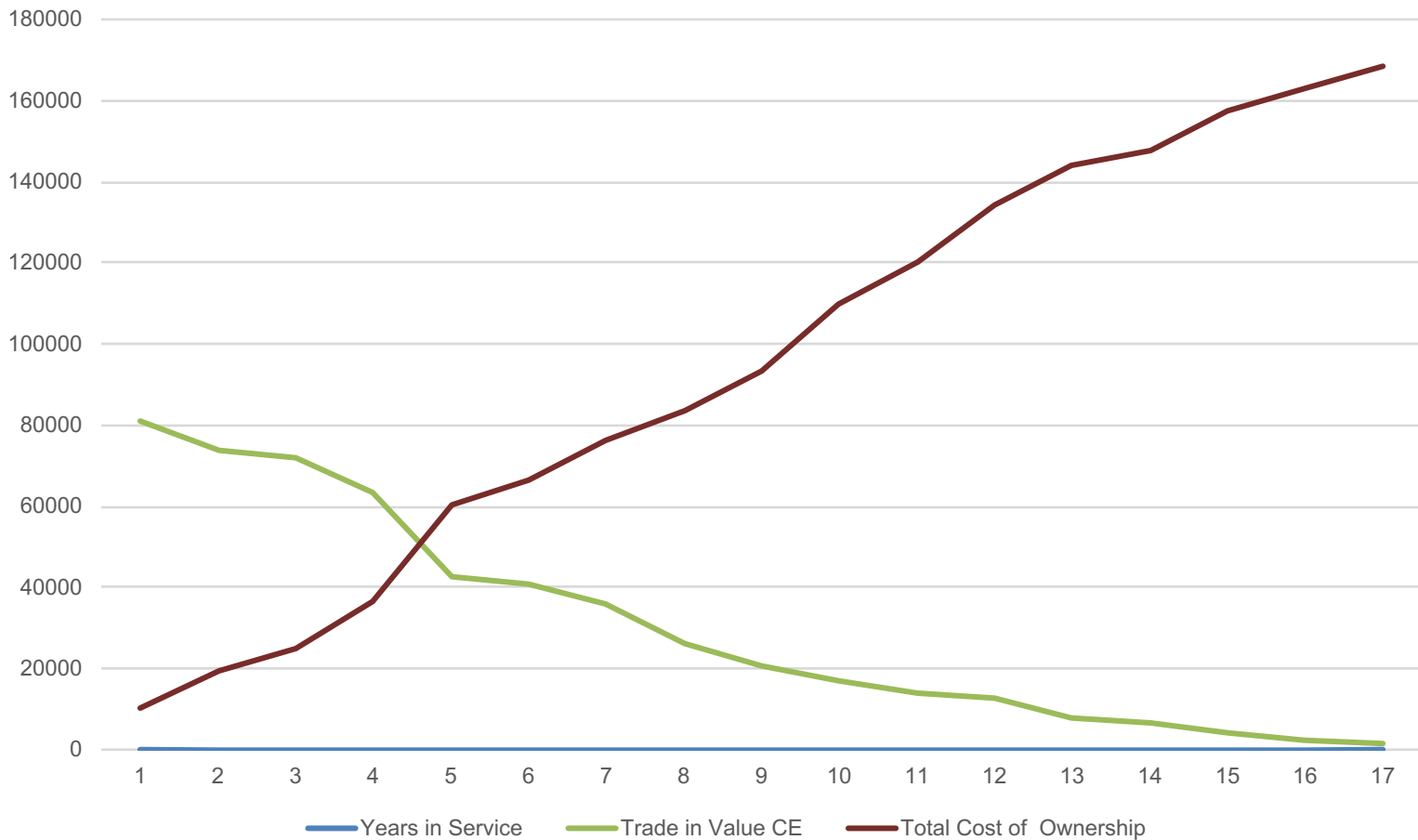


# Lost capital value

- A bus typically loses 50% of its value in the first 5 years
- That bus will lose an additional 10% in value each year after that
  - A 10 year old bus has \$0 resale value

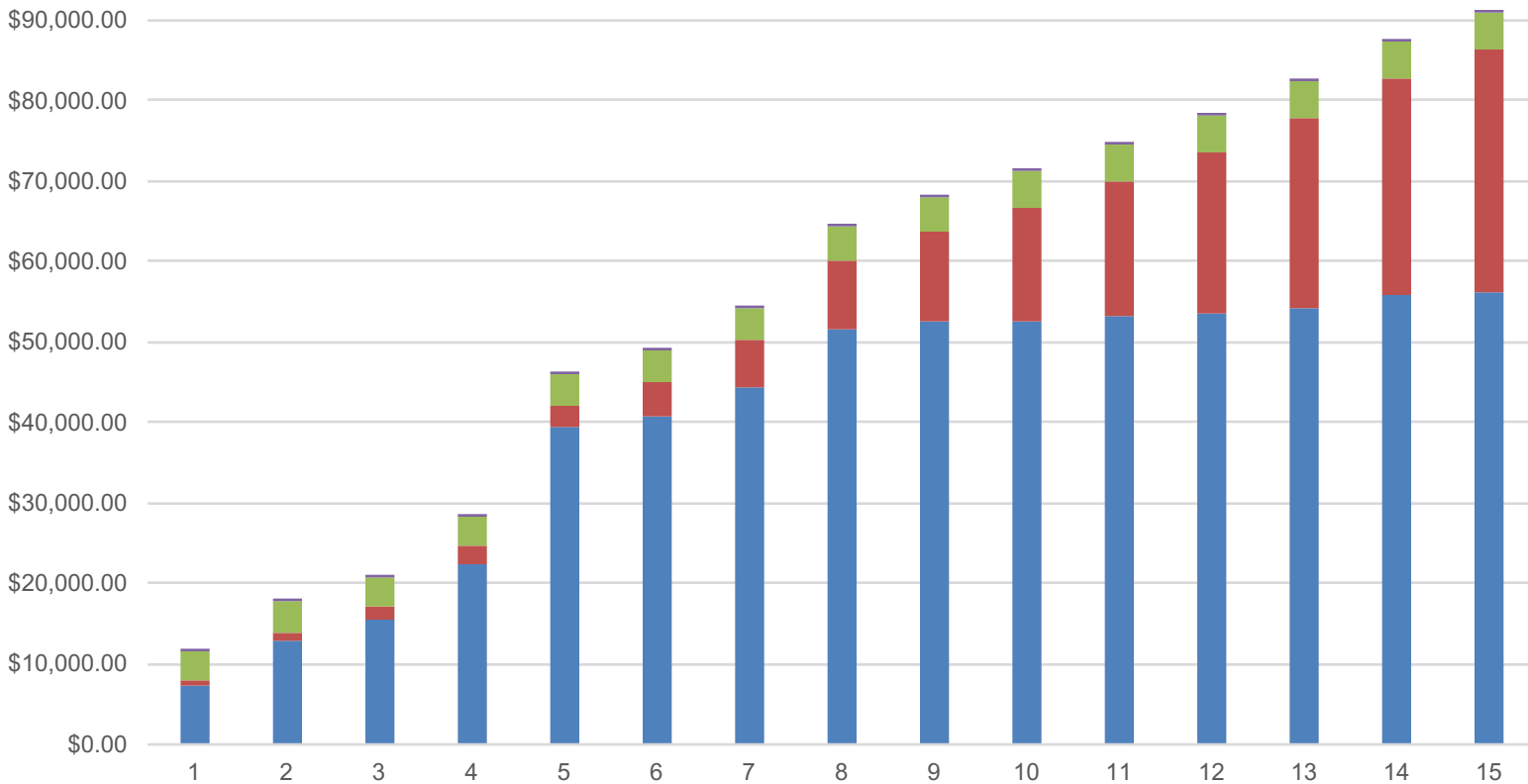


## Conventional Bus Cost of Ownership





Expenses  
Fuel Cost is Green  
Maintenance Costs is Red  
Lost Value is Blue





# By the Numbers

- The first 5 years are the lowest cost for maintenance and fuel expenses- especially when you buy extended warranties
- Years 6 and 7 have less depreciation but more maintenance costs.
- By years 6 & 7, newer vehicles will have better fuel economy

...Looks like year 7 is a bid year



# Know when to Trade

- What are your district dollars buying?
  - Complete new buses?
  - Used buses?
  - One new piece at a time on an old bus?
  - Extra spare buses?
- Keeping old buses for spare parts
  - Valuable practice or not?



# Buying options . . .

- Use the lease/purchase option to replace buses in clusters to optimize purchasing strength, replacing older high maintenance buses
- Purchase extended warranty to reduce financial risk exposure





# Follow the Money

- Successful private fleets trade light vehicles at 4.6 years of age
- Large truck fleets at 6-8 years of age
- Medium duty trucks and vocational vehicles are turned around at 6-7 years of age
- Current practice for school buses: 12-15 years of age



# Benefits of younger fleet

- Maintenance and fuel costs lower
- Fewer spare buses needed
- Students in safest possible vehicle
- Mechanics can focus on preventative measures not major repairs
- Dependable Fleet – School on time
- Driver retention



# Buying your next bus



# Knowing the needs . . .

- Decide on your optimal fleet size
- Compare your useful fleet to your optimal fleet size
  - This gives you your short-term need



# Important note

- You will need to rotate the bus assignments
  - Newest buses to long routes
  - Previous effective buses move down the routing ladder
  - Formerly mediocre buses to sub status
  - Worst buses leave the fleet



# And now, to buy a bus

- Legal aspects
- Timeline
- Needs analysis
- Specifications
- Process
- Purchase options
- Delivery



# Legal aspects

- Tax money, requires competitive bidding, with all of its own elements!
- RC 153.54 Bid guaranty
  - Bond for 100% or Credit letter of 10%
  - Held by district to ensure bid is accepted
  - If bidder does not accept bid, they forfeit the bid guaranty



# More legal aspects

- RC 3313.172 – allows districts to purchase outright or lease-purchase
  - What is a lease-purchase?
- RC 3313.41 – disposal of old buses. Any property with value over 10,000 must be auctioned, unless sold to another school





# And more legal . . .

- RC 3313.41 – also allows donation to eligible nonprofit (fire department)
- RC 3313.46 – any purchase over 25,000 requires competitive bid
  - Legal ad – 2 times at least 14 days in advance of opening or advertise 1 time and post notice on web



# RC 3313.46 continued

- Bids must be opened on advertised date and time, unless formally extended (board action required)
- None but the lowest responsible bid shall be accepted
- May reject all bids



# RC 3313.46 continued

- If two or more bids are equal, either may be accepted
  - But in no case can bid be divided
- If collusion is suspected among bidders, those bids must be rejected



# RC 3327.08

- Empowers schools to purchase buses, either on their own or through consortiums
- But only after competitive bidding
- No reference in this section to other types of motor vehicles



# Needs analysis

- What capacity bus?
  - Real capacity, not rated capacity
  - Standardized capacity in fleet?
    - It takes 2 small buses to cover 1 large one
  - Special education buses
    - Is there room for another wheelchair
    - Can you take the whole class in 1 trip?



# Vehicle style

- Conventional vs. transit
  - Passenger capacity
  - Wheelbase
  - Visibility
  - Maintainability
- Within transit
  - Front or rear engine?



# Engine Size

- Most diesel engines are now Cummins C
- 200 hp, 220 hp, 240 hp
- Torque ratings
- What do you need:
  - Power to manage your district
  - Good fuel economy
  - Lowest entry cost



# Other engine items

- Cylinder configuration I-6, V-8
- EPA compliance equipment
  - Exhaust after treatment
  - SCR (selective catalytic reduction) systems standard
    - Requires the use of DEF (diesel exhaust fluid)
  - Some EGR still in market





# Construction standards

- All buses nationwide comply with FMVSS standards
  - Self certification, with aftermarket testing
- Ohio buses also comply with Ohio school bus construction standards
- Includes listing of approved options
- Ohio's standard limits other items



# Identifying specific options

- Industry changes regularly
- Work with vendors or industry experts to learn about options, what benefits they may have, and how they meet your needs
- Options must be approved
- New option test process – via OSP



# Decide what you want

- Look at what others have purchased
- Evaluate what has worked for you
- Determine if cost is worth it for you
- There is nothing wrong with buying a state minimum standard bus!



# Delivery dates

- Typical benchmark – 9 months
- Plan your bidding so that you can take delivery of a new bus during the summer.
- This means: bid in Fall or Winter



# If you need a bus NOW!

- Resolution of urgent necessity
  - Waives competitive bid
  - But . . .
- Another option- alternate bids with delivery stipulations
- Find a new bus on a dealer's lot that is already built and ready for you
  - Accept it the way it was built, may not match your other buses.



# Your bid packet

- Size and style of bus
- Chassis specifications
- Body specifications
- Instructions to the bidder
- Vendor information and affirmation
- Property Tax affirmation
- Bid bond instructions



# Legal ad

- Placed once or twice
  - Notice of bid
  - Bid opening date
  - Contact information



# Bid opening

- This is a formal process
- Bids must be received before the opening
- No changes accepted after the deadline
- No bids accepted after the deadline
- Read aloud, many vendors will want to see copies





# Bid analysis

- Compare separate bids carefully, making certain it is apples to apples
- Exceptions to a bid requirement may result in a cost advantage
- If you asked for option pricing, make certain all vendors bid the same option



# What is a 'responsible bid'?

- Vendor needs to meet your specifications
- You can also consider history, with respect to:
  - Quality of previous purchases
  - Quality of work and facilities of vendor
  - General ability and capacity to fill bid
  - Competence, integrity and judgment



# Unique situations

- You may reject all bids
- If two bids are equal and lower, either may be accepted. You may NOT divide the purchase between the two bidders.
- If you believe there is collusion between the bidders, those bids shall be rejected



# Do you really want to stick with just one brand?

## Diversity

- Increased inventory
- Requires more product knowledge
- Wider dealer network
- Increases bidding competitiveness
- Major issues are compartmentalized, minimizing fleet impact

## Similar Vehicles

- Inventory is easy
- Product knowledge is leveraged
- Common defects are known
- Decrease bidding competition
- Major issues can paralyze fleet
  - “Carpenter Syndrome”



# Buy it !

- Issue Purchase Contract
  - Stick to the bid
- Upon delivery, inspect
- When in compliance, OSP Inspection
- Title must be on site
- OSP inspectors will leave you a form to send to BMV for registration
- Insure it



# Disposal of old buses

- Any bus that is over 10 years old is considered to be a local bus, and may be sold or disposed of as needed
- Any 'funded' bus that is less than 10 years old must be made available to other eligible programs, and may not be sold without ODE permission.



# Lease Purchase

- An alternative to outright purchase is the lease-purchase
- This is actually an installment purchase, not a traditional lease
- With low rates, it is possible that the interest cost is less than your operating cost of an old bus
- If you lease-purchase several buses, you may save enough operating cost to reduce the effective price of the new buses by 20-30k.



# Closing points

- Consortium bids
- Joint purchases with other districts
- Use of outside services to bid
- Understanding the industry margins and pricing





# Choosing your bus fuel

- Tony Rumer, Cardinal Bus Sales
  - Blue Bird
- Craig Myers, Myers Bus & Equipment
  - Thomas



# The options

- Diesel
- Propane
- CNG
- Gas
- Diesel-Electric Hybrids
- Electric



# Bus drivers . . .



# The current crisis:

- Recruiting
- When the economy is good, we have difficulty recruiting drivers
- Recent changes in retirement rules have also driven an exodus of drivers
- Other difficulties include
  - Short hours
  - Long training period
  - Health insurance
  - High qualification standards



# Challenges to consider

- Training
  - Current model requires 4 – 8 weeks
  - Class time 1 week, when available
  - OBI time 12 – 20 hours
  - Delay for CDL, BCI, Medical
- We need to innovate



# Possible training innovations

- Shorten the training window:
  - OBI's that are available full time
  - New class room training model
    - On-line, more access, shorter time span
  - Training academies that support multiple districts?
  - Vocational programs?



# Learn from those who stay

- Good recruiting capitalizes on the reasons that your current drivers stay with you
- Learn what those reasons are



# Work hard at atmosphere

- Promote a positive climate
- Drivers need to be part of the solutions, and have input
- Collaboration is a strong motivator
- The best applicants are recruited by staff that appreciate the work environment.





# Ways to reach out

- Social media
- Print media
  - More success with newsletters, parent communications, community based media
- Word of mouth
- Friends and associates of current staff
- Job fairs



# Reach out to Civic Organizations

- Fraternal orders of Fire and Police
- Chamber of Commerce
- Jaycees of America
- Knights of Columbus



# Consider existing staff

- Some current part time staff in other departments may be interested in additional assignments
- Multiple part time assignments may create a full-time position with benefits



# Know what they want

- Identify what candidates may want
  - Full time?
  - Part time?
  - School year only?
  - Field trip only?
  - Job sharing with another person?
  - Benefits?



# Respond and stay in Contact

- Someone who is looking for work will apply multiple places.
- Respond quickly, act quickly
- Take positive action with an applicant very quickly – let them know you want them on your team.
- “Wait for us to call you” = they will keep looking
- Ask how to best communicate with them: use email, text and voice messages.



# Personal interaction needed

- If you are too busy . . .
  - Leverage your staff
  - Use your trainers for early interaction
- Get the candidate involved in some action
  - Ride along
  - Introduction to the district



# Stay Organized

- Complete the process quickly.
- Be very familiar with your district hiring procedures.
- Have a detailed job description available to share with candidates.
- Be confident and positive.
- Minimize obstacles



# It is a fishing trip . . .

- Decide what you are looking for
- Determine where the best fishing holes are (and use more than one)
- Get the lines into the water
- When there is a nibble, set the hook
- Carefully bring the fish in without losing them





# A good foundation

- You must have a great interview process
- You should only proceed with a candidate after you:
  - Ask the right questions
  - Do the reference checks
  - Learn as much as you can before you start the formal qualifications process



# Be careful

- Do not leave background to chance
- No matter how badly you need a driver
  - You do not need the “wrong” driver
  - You do not need a surprise at the end of the training period that eliminates your candidate . . .
    - After you have invested much time



# Managing driver qualifications

- Our qualifications requirements are too extensive to meet without formal procedures and documentation
- Use a thorough 'on-boarding' chart
  - one page for each new driver
  - Build the file starting on day one



# Prioritize your actions

- Schedule the events that you have least control over first
  - Background checks
  - T8
- If they need their CDL, get started asap.
- Have both a trainer and a candidate-mentor work closely to guide the new candidate
- Start early with district training – build a relationship with the candidate



# ODE Preservice program

- Behind the wheel training:
  - Start early, and document each step
- Class
  - Look for a convenient time and location
  - Prepare the driver for the experience
- The class is valuable, but your candidate will be in the big pool with others
  - There will be horror stories
  - The gravity of the responsibility will be emphasized
  - This experience, without a local relationship to lean on, can be disruptive to completion



# Maintain contact

- The candidate must feel like a part of the team immediately
  - Do not lose touch with them
  - Do not 'walk away' as soon as you have a trainer assigned to them
  - Ask, reassure, guide, and be a resource



# Once trained . . .

- Be very careful with the first 90 days
- Guide them into the job
- Coach, mentor, suggest, reinforce
- There will be some bad days, and probably some mistakes
- Gentle correction and reassurance is key



# The rest of the flock . . .

- Use a master qualifications log
- Track every driver's status on each of the qualification requirements
- Know well in advance before something needs to be done
  - License renewal
  - Preservice renewal
  - Diabetic or blood pressure waivers





# In-service training is critical

- Required, but also vital to a healthy operation
- 3301-83-10: minimum 4 hours per year
  - Not tied to any particular dates
  - Employer has complete discretion
  - Topics, times, acceptance of outside trainings, locations



# External training

- Employer may accept, but is not required to waive local in-service in lieu of:
  - Advanced driver training classes hosted by ODE pre-service program
  - CPR, First aid classes
  - ESC in-service programs
  - Other schools or districts



# External trainings

- Provided by other sources
  - May be a valid resource
  - Convenient for supervisors
  - May not meet the employer's needs
  - May limit available training hours (\$\$, contract) to require drivers at district in-service



# Internal trainings

- Require planning & resources
- Consumes administrative time
- Can be tailored to district needs
- Built into regular work schedule
  - In-service days, nonpublic closures



# Frequency options

- 4 hours one time per year
- One longer class in August, followed by periodic classes during the year
- Monthly 'safety' meetings
- Scheduled on teacher in-service days



# Topics

- Use a needs assessment
  - Reactive topics
  - Proactive topics
  - Expand the horizons
- Understand adult learning styles
  - ‘Hands on’ verses ‘presentation’
  - Experiential
  - Provide follow-up resources
  - Acknowledge learning ‘time limits’



# Some topics are no-brainers

- Act out portions of the emergency plan
- Bring in active events
  - CPR, First Aid, Police, Fire
- Driving skill challenges



# Vary the group size

- Not all training has to be with the entire department
- Consider OBI mini-sessions with small groups of drivers
- Consider focus groups on special topics (special education . . .)





# Student management

- Behavior management tactics
- Identifying unique student needs
- Effective techniques
- Use district resources that are also provided for teaching staff



# Use a planning team

- Ongoing training should be organized
- Have a plan for topics
- Use your driving staff to help plan and execute the training plan
- Establish Buy-in and shared ownership



# The real value

- In-service training is much more than just meeting a state requirement
- It is the constant interaction between those who work together to provide safe and effective transportation for Ohio's school children



# Thank you!



Like us on  
**Facebook**

Ohio School Boards Association

follow us on  
**twitter**

@OHSchoolboards

Visit our website at:  
**[www.ohioschoolboards.org](http://www.ohioschoolboards.org)**