Using Transportation Technology to Maximize Funding

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What funding are we talking about?

Cost of Transportation in Michigan

Prepared for the

Michigan School Finance Collaborative

By

Augenblick, Palaich and Associates

Final Report

Released: November 22, 2022

What does the formula revision say and what does it mean?

Section 388.1622l - Allocation for district transportation costs and intermediate district transportation study

(1) From the school transportation fund money appropriated under section 11, there is allocated for 2023-2024 only an amount not to exceed **$125,000,000.00** to districts and intermediate districts for transportation costs. Funding for each district or intermediate district is as follows:

(a) The department must assign each district and intermediate district to a quartile based on the number of riders per square mile and calculate the median cost per rider for each quartile.

(b) Funds must be distributed to each district and intermediate district at the lesser of the quartile's median cost per rider or the actual transportation cost per general education student at the district or intermediate district.

(c) If funds are insufficient to fully fund payments under this section, payments may be prorated on an equal percentage basis.

(2) In addition to the funds allocated under subsection (1), from the school transportation fund money appropriated under section 11, there is allocated for 2022-2023 only an amount not to exceed $200,000.00 to an intermediate district for a study on district transportation costs. The intermediate district receiving funds under this subsection must submit a report to the department, the state budget director, the house and senate appropriations subcommittees on school aid, and the house and senate fiscal agencies by February 29, 2024 on the outcomes of the study under this subsection.

(3) Notwithstanding section 17b, the department shall make payments under this section on a schedule determined by the department.
MCL 388.1622l

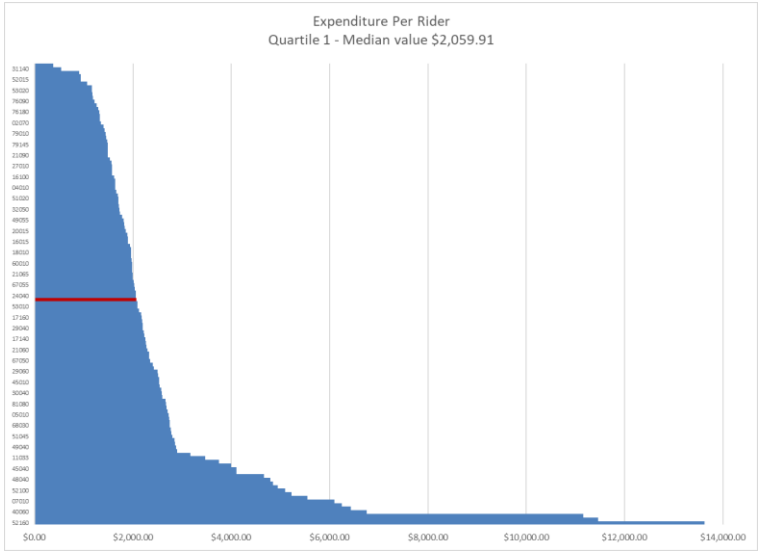
Amended by 2023, Act 320,s 6, eff. 2/13/2024.

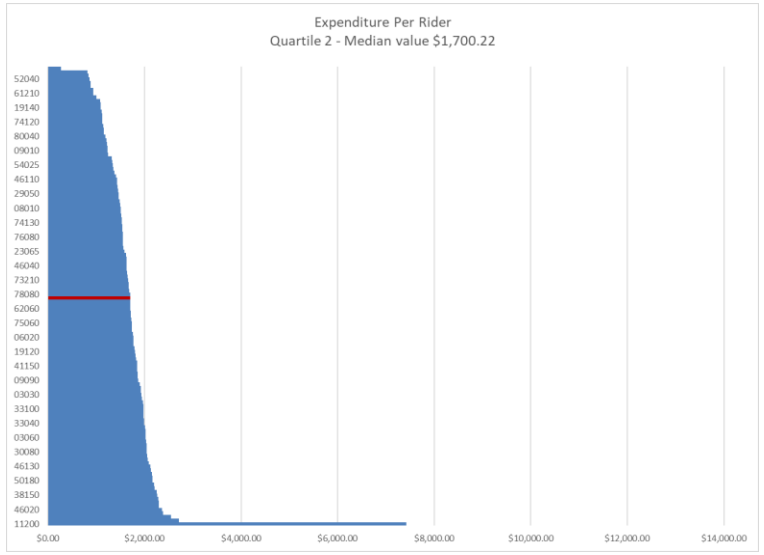
Lets look at a sample – Data sources

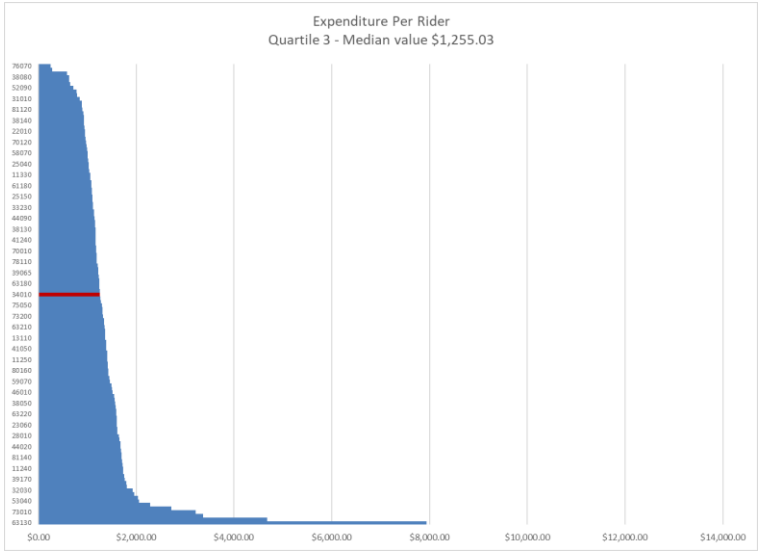
- SE-4094, SE-4059, SE-4107 – cost and unit information
- Square Mileage of Michigan School Districts – CEPI website

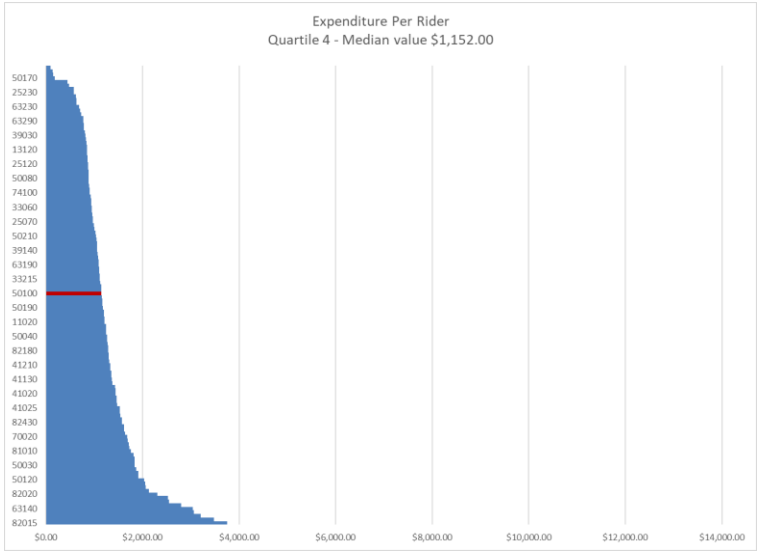
- **Riders per square mile** – Total riders (SE-4094) / Square miles of district (CEPI site)
- **Median cost per rider** – Total expenditures (SE-4094) / Total riders (SE-4094)

Lets look at a sample – Density groups and costs









What is the impact on our sample?

- **Total reduction in funding of $100,750.26**
- Broad ranges across quartiles
- Substantial need to understand where you fit in the quartile and what you can do to address that

Quartile	Greatest Difference (negative)	Greatest Difference (positive)	Average Difference
1	($11,562.79)	$1,684.72	($509.27)
2	($5,724.45)	$1,430.72	($3.56)
3	($6,680.37)	$1,006.62	($146.02)
4	($2,594.86)	$1,055.14	($129.41)

What options do you have?

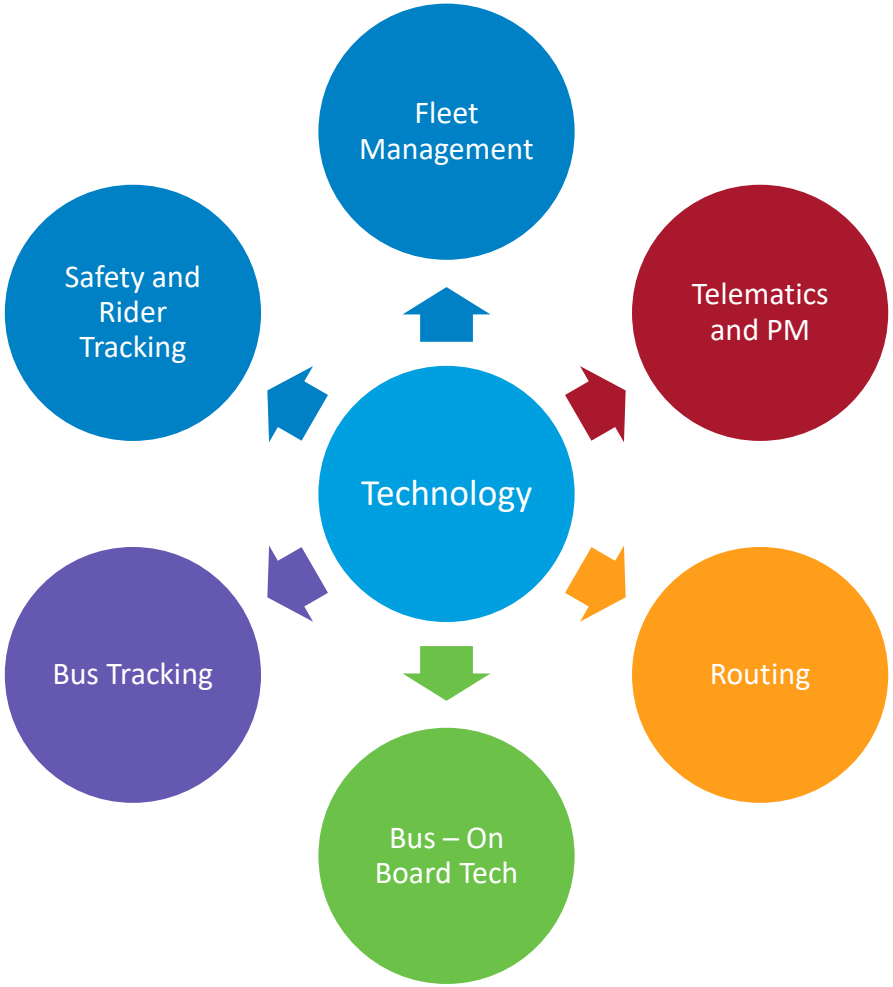
- **Maximize revenue** – have the greatest difference between your quartile median cost and your cost
- **Minimize volatility** – have very little difference between your quartile median cost and your cost
- **Minimize losses** – control the difference between your quartile median cost and your cost

Costs you can try to control

- Operational
  - Routing efficiency
    - Bell times
    - Route structure
    - Eligibility
  - Personnel costs
  - Maintenance costs
  - Fuel costs
  - Fleet age

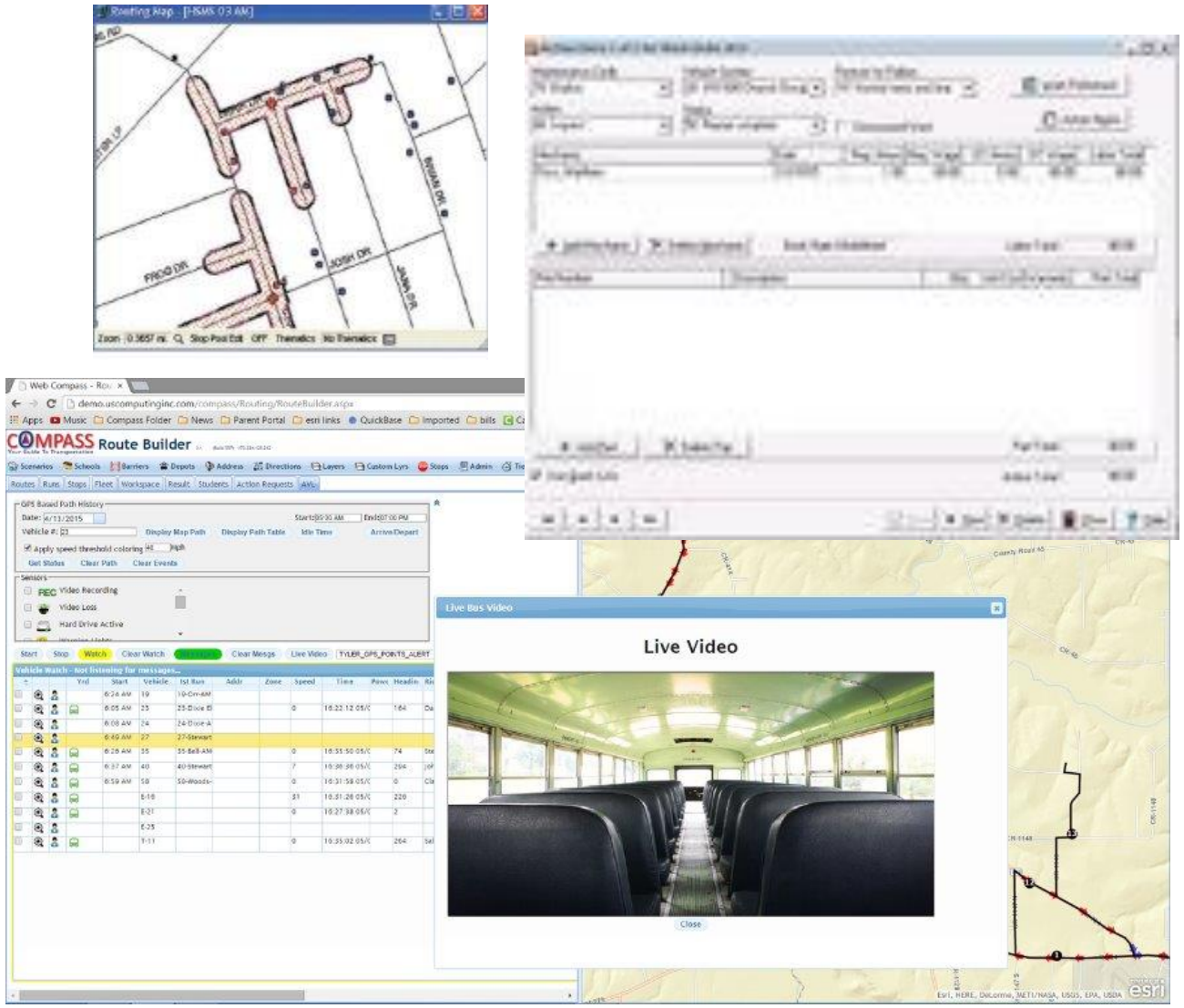
- Administrative
  - Data collection
  - Data preparation
  - Data validation
  - Analysis of options

The relationship of technology to funding management



Route management for cost control and revenue management

- Remember routing software is a planning tool; not a reality shaper
- Helps you understand what is possible not what will happen or what did happen.
- Seismic shifts in platforms occurring across this industry also from the desktop to the cloud
  - Dramatic increases in capability through integration of multiple products.
  - Significant changes in pricing structures to account for platform changes
  - Slower changes in the robustness of training efforts and elevation of expectations due to staffing challenges
  - Notable efforts to close the gap between the plan and reality (GPS derived) but still more limited than in other demand-response markets
- For many districts, the value of owning routing software may not be in the routes that get developed

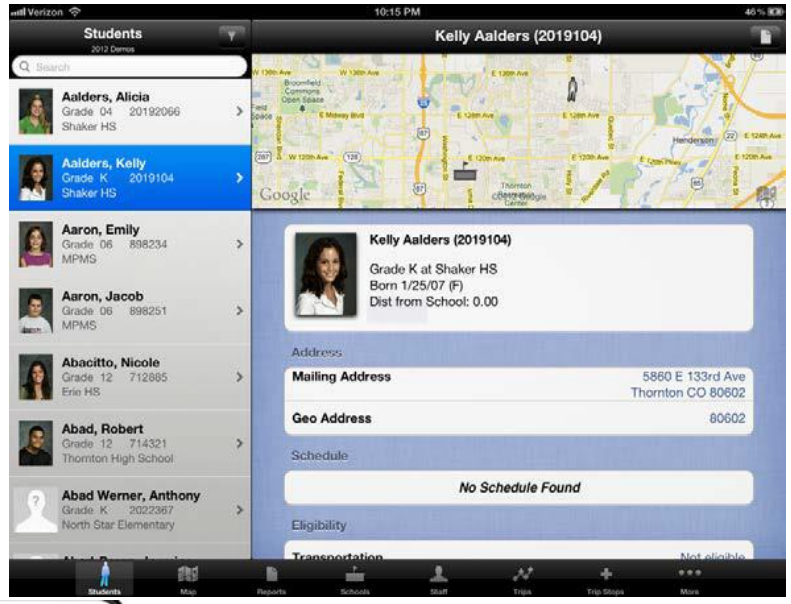


Fleet telematics and revenue management

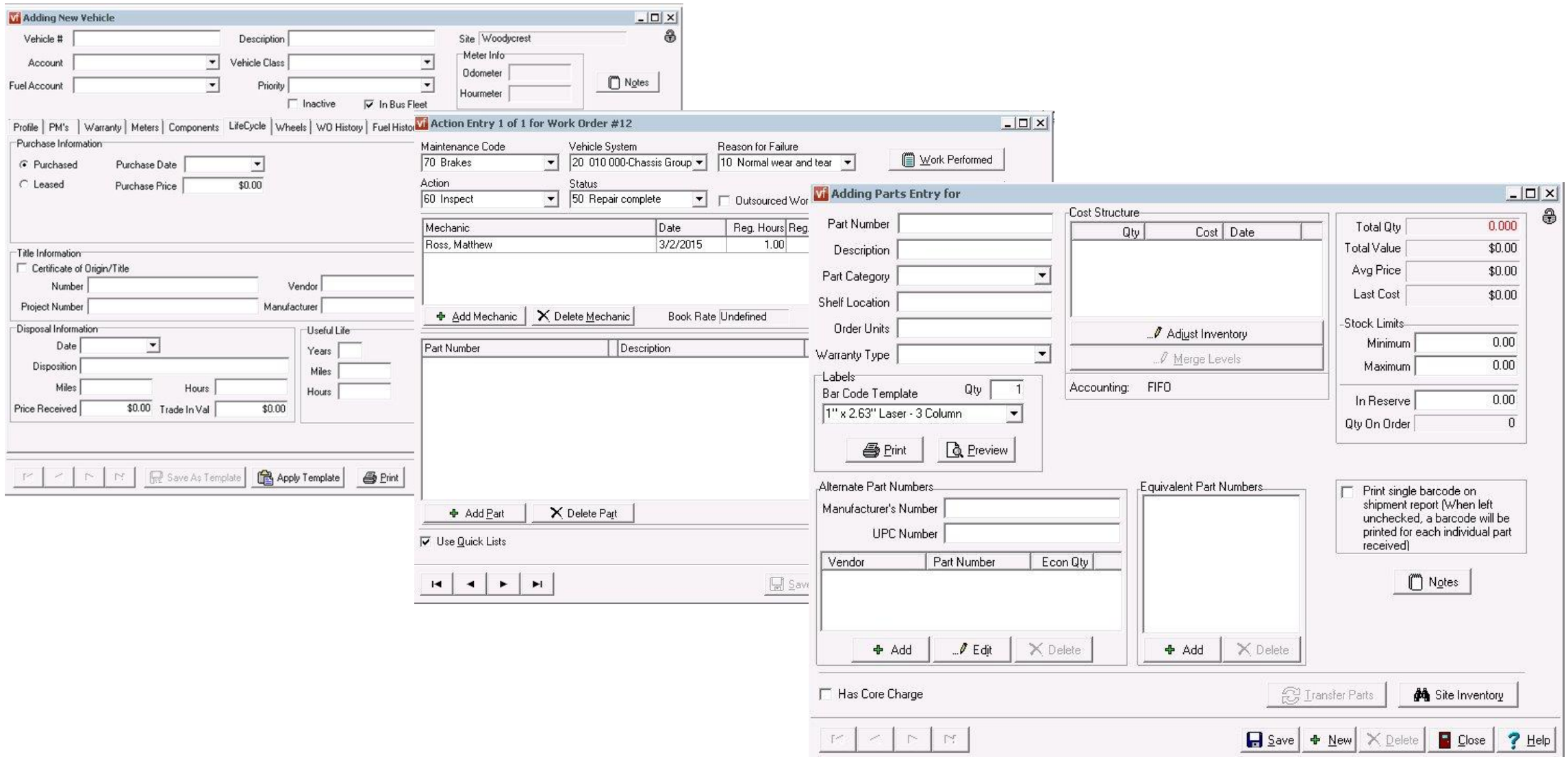
- **Collect and analyze data about start/stop events to identify student counts** to support the rider count collection process to support the submission of the data.
- **Reduce operating costs through improved driving characteristics** (i.e. hard breaking or fast starts) to identify and reduce harmful driving behaviors that could endanger students and capture external events through driver and external cameras connected to the GPS device.
- **Improve maintenance processes** Make informed service decisions within minutes of an engine or after-treatment fault event so that you only service vehicles when needed, increasing vehicle uptime.
- **Fuel Consumption** Track fuel efficiency to detect potential unsafe driver behaviors.
- **Engine Idle Time** Reduce fuel costs, emissions, and engine wear-and-tear with systems that automatically record excessive idle time, send alerts to dispatch and fleet managers, and provide fleet managers with necessary data to evaluate driver performance.

Student management and revenue management

- Remember: You are managing students not tracking them
- Simple questions with very complicated answers requiring significant system integration



Fleet management and revenue management



Questions?

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Key Considerations for Maximizing Revenue

- Recognize aspects of the formula you can control and those you cannot
- Understand which of the three options you are choosing and why
- Determine how best to incorporate the technology options into your calculations
- Assess the total of cost of management considerations

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Thank you.

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