



## Anatomy of Hourly Rates

By Aaron Sinclair

The forest sector, a cyclical industry that has been on an upcycle for the last few years, has been showing some signs of weakness recently. Regardless of the economic cycle, however, one thing does not change: the movement of logs from the forest to sawmills. The volumes may be higher or lower, but logs still move, and this means logging services are required. In British Columbia, independent logging contractors are mostly providing those services.

Over the past few years, there has been a lot of discussion about contractor sustainability. In March 2017, PNL Consulting Inc. provided the first ever look into the financial sustainability of logging contractors with its Forest Sector Contractor Economic Sustainability Analysis report to the Ministry of Forests, Lands, Natural Resource Operations and Rural Development. This report was the foundation for the work later done by George Abbott of Circle Square Solutions to provide the resulting 13 recommendations of the Contractor Sustainability Review in an effort to improve logging contractor sustainability.

The first two recommendations outlined implementation of transparent rate models that will allow contractors and licensees to negotiate rates using detailed site- and circumstance-specific data instead of positionally negotiating all-found rates (an hourly metric that assumes the machine and worker are already on site and ready to perform the required work).

The foundation of any rate is the principle of understanding the cost of the tools used to perform the service. In logging, this means understanding equipment and personnel hourly rates.

Over the last year, concepts for developing hourly rates have been proposed by Chris Duncan from MNP in the *TruckLoggerBC* magazine Spring issue, and Harold Hayes from Hayes Forest Services Limited at the TLA fall networking event in Campbell River.

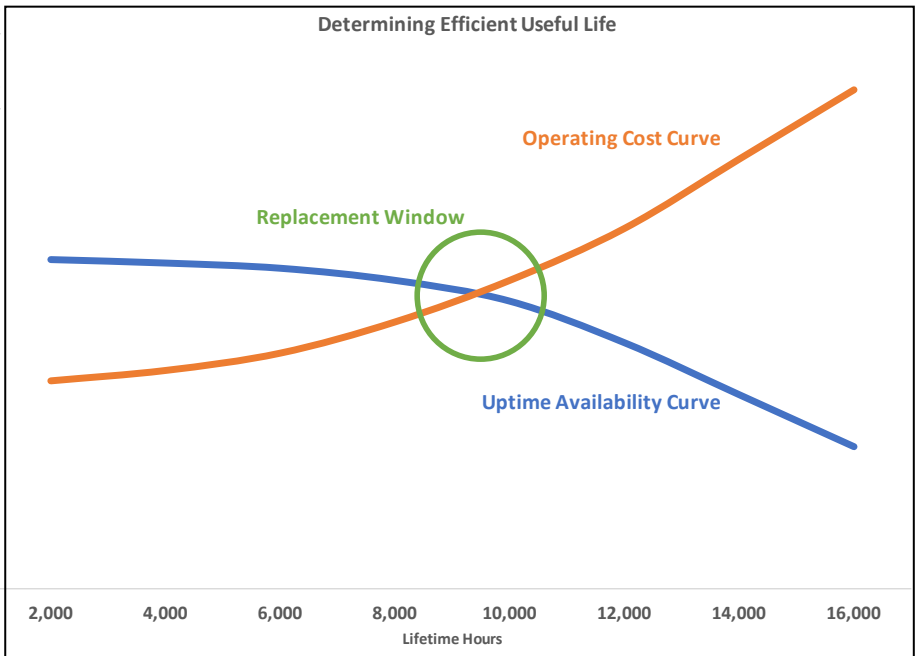
Both Duncan and Hayes have spoken on the topic of modelling design concepts. Having a model is one thing, having the data to populate that model is another, and having objective data that accurately represent industry best prac-

tices and actual cost factors is something else again.

Hourly equipment rate models are all relatively the same. They consider ownership costs across the efficient useful life of equipment, include operating costs on an annual basis, layer in business overhead factors and profit, and then apply those costs against core annual usage assumptions to calculate an hourly rate.

### Ownership costs

Ownership costs—the cost to own equipment whether it operates or not—is perhaps the easiest cost factor to quantify and validate. It starts with the cost to purchase and fully rig out the equipment ready for work; this typically includes a number of factors, such as base machine purchase cost, attachment(s) purchase cost, supplemental accessories (such as radios) purchase cost, firefighting equipment, extended warranties, and non-refundable taxes such as provincial sales tax on non-exempt purchases. Collectively, these costs determine the fully rigged-out purchase price. It is pretty



simple to validate these costs given that each time a piece of equipment is purchased and prepared for work, third-party documents are available to validate the figures.

The other ownership costs are less simple to validate.

The next most important ownership factor is the efficient useful life of the equipment. Efficient useful life is not to be confused with its operating life. At a certain point in time as equipment ages, it begins to experience reduced downtime caused by equipment failure. It does not matter how the equipment is maintained: at some point it simply starts to wear out. Eventually, reduced downtime costs more in lost productivity than the cost to replace the machine.

Determining the average efficient useful life of a machine varies depending on the application, circumstances and type of machine. In each case, however, once

it reaches that point, it is less valuable as a production machine, and loggers typically sell those machines in order to recapture a residual value based on its hours and condition. Once a metric for efficient useful life hours is determined, annual operating hours (based on its application, circumstances and type of machine) can be identified.

The purchase cost of a machine must be recovered over its efficient useful life less the residual value. The purchase cost is financed, whether through external debt or internal equity, and that financing must generate a return consistent with the appropriate time value of money (i.e., interest rate). If funded by external debt, this cost is easy to validate.

The last ownership cost is insurance. It is prudent to insure equipment against loss whether the equipment is operating or not.

### Operating costs

Operating costs are the costs required to run a piece of equipment; these vary based on the operating circumstances and the type of equipment. For most machines, the greatest cost is operator payroll, followed by fuel, then repairs and maintenance.

Operator payroll is relatively easy to validate. In union environments there are prescribed rates, and in non-union environments it is easy to verify the actual wages paid to workers. The more challenging aspect of wages is determining the proper loading costs that are additional to the base wage. Statutorily, these include overtime rate, vacation pay, statutory holidays, Canada Pension Plan, Employment Insurance, Work-SafeBC insurance, and, starting January 1, 2019, an employer health tax. Each of these is required to be paid by the employer by law, but the items have varying values; some have maximum amounts, while others do not.

The most challenging payroll-related costs are those not required by statute but dictated by the market, whether through a collective agreement or otherwise. The most common include extended health and dental benefits, pensions and first aid premiums. There are also many other premiums required to compensate workers for their skills or responsibilities, and all need to be considered when calculating hourly payroll cost.

Fuel and lubricants, including diesel exhaust fluid, are usually the second most significant cost factor in equipment operation. Fuel consumption is the most challenging cost to calculate due to dramatic variations in site circumstances. For example, a log loader on flat ground with small piece-sized logs on trucks is operating lightly, so fuel consumption will be low. On the other hand, the same machine hoe-chucking big piece-sized wood on steep ground will be under significant strain, leading to high fuel consumption.

Repairs and maintenance—whether running repairs or major repairs—is one of the easier costs to measure when considered over longer time frames and trends. Repairs should never be measured at a given moment of time, in fact, but rather as the experience over time. The most effective way to learn the true repair costs of a machine is to calculate them *after* the machine has reached the end of its efficient useful life. In practice,

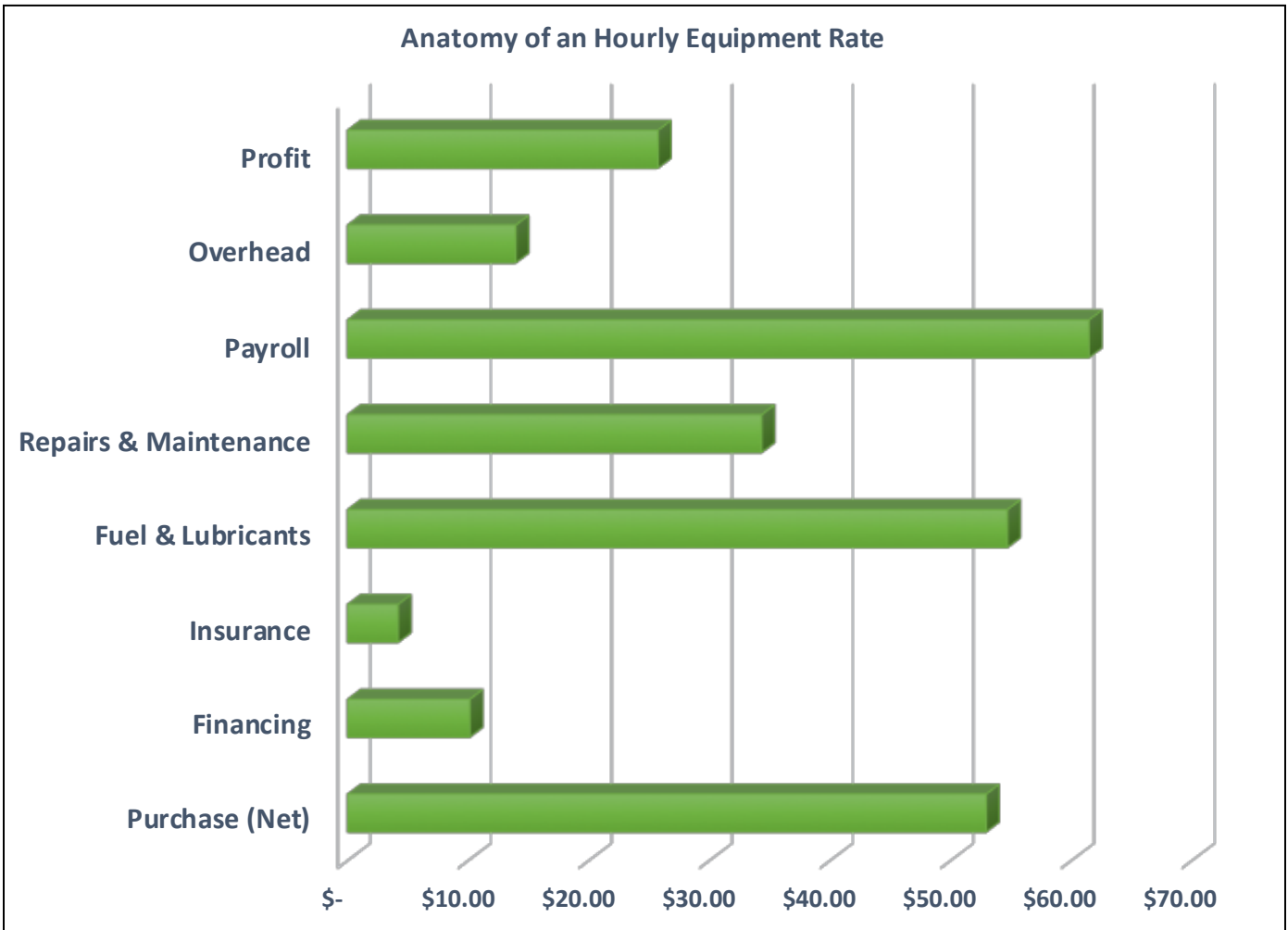
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repair costs are calculated on a rolling basis relative to the operating hours, culminating in a reflective repair cost per hour.

The remaining category of operating costs is consumable supplies. This could be teeth, bars, chains, cutting edges, or other consumable items. The frequency and consumption rates are highly dependent upon the machine type and

operating circumstances. Much like repairs and maintenance, these costs are typically measured over time.

#### All-found hourly rate

The typical all-found rate, as mentioned earlier, is an hourly rate that assumes the machine and worker are already on site and ready to perform the required work. Not only does this figure

include the equipment ownership and operating costs, it also adds additional business overhead costs such as general liability insurance, professional fees, office administration, business management, and other costs essential to ensuring the equipment is ready and able to perform its required work.

Hourly rates also must include profit. Profit is more than just returning the capital deployed; it is about generating positive cash flow to allow businesses to grow, secure financing, attract investors, and survive challenging markets.

#### Cost data for hourly rates

Four years ago, Timber Tracks Inc. began collecting data on logging equipment costs and operating circumstances. That database considers over 50 different operating circumstances and cost factors for owning and operating logging equipment in British Columbia, whether in the Coast or Interior region.

During this time of evolving market forces, there is a need for better integration of the forest sector supply chain, making it incumbent on the industry to

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begin rationalizing the true cost of operating on the land base. Establishing market-reflective hourly rates is the first step in establishing an efficiently supply-managed industry.

This past summer, Timber Tracks Inc. undertook the ambitious project of building new forest sector hourly rates from the ground up using actual data obtained from logging contractors, equipment manufacturers and licensees. The data collected have been aggregated together by each cost factor and operating circumstance as a means to establish industry-representative data points. These data points have then been fed into a model that calculates hourly rates assuming a reasonable average operating circumstance in the industry.

In January 2019, the TimberTracks™ British Columbia Forest Sector Hourly Rates publication will be made available to TimberTracks™ subscribers and under a licensing agreement to TLA members. This will be a comprehensive publication covering all phases of logging, trucking and supervision.

Over time, the TimberTracks™ Forest Sector Hourly Rates will evolve to incorporate regional and operating circumstances in order to facilitate dynamic adjustments that recognize a range of changing factors; this will soon allow long-term set rates to be replaced by ones that reflect true operating circumstances and market factors. This important development will lead to a healthier industry overall by enabling market participants to collaboratively realize more opportunities to achieve cost synergies, all with the objective of improving the sustainability of British Columbia's forest sector. 🌲



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