

The Future Has Arrived.

Sustainable. On time. On Budget.



**VALUE-ENGINEERED LIGHT RAPID TRANSIT.
GREENEST TECHNOLOGY AVAILABLE.
FAST CONSTRUCTION.
COST EFFECTIVE AND EXPANDABLE.**



Municipal Transit Solutions

The MTS Value-Engineered LRT. An All-In-One Transit Solution, Integrating Existing Technologies.

Our cities are desperate for better transit solutions. Governments are backed up on decisions to invest tens of billions of dollars on new public transit construction due to the dilemma of choosing between two mostly undesirable options: buses that nobody wants to ride or light rail that nobody can afford to pay – or wait for. Meanwhile, our carbon footprint reduction goals require immediate action.

On/Off Rail capability streamlines routes with one vehicle across multiple modes,

reducing transfer and transit times while attracting ridership with a total system solution for the price of a typical BRT line.

VE-LRT innovatively integrates existing technologies to achieve these extraordinary capabilities, at lower cost than most other systems. It presents a great opportunity to achieve your city's transit goals. We invite the most demanding risk managers to analyze this system as it compares to its BRT and LRT. They will find the VE-LRT will score the lowest risk among them all.

AN E-BUS ON RAILS DELIVERS LRT PERFORMANCE AT BRT COST.



STANDARD LRT

- FAST
- SMOOTH RIDING
- SOPHISTICATED
- RIDER-ATTRACTIVE
- EFFICIENT
- COMFORTABLE
- QUIET

TRANSIT BUS

- USES EXISTING ROADWAYS
- PASSES OTHER BUSES
- CAN DETOUR
- CAN CLIMB HILLS
- NO SWITCHING REQUIRED
- NO PANTOGRAPH, THIRD RAIL
- NO INTERFERENCE WITH CARS OR PEDESTRIANS

MTS VE-LRT

- COMBINES ATTRIBUTES OF BUS TRANSIT AND LRT SYSTEMS WITH A RANGE OF ADDITIONAL COST, PLANNING AND CARBON FOOTPRINT ADVANTAGES
- ON/OFF-RAIL CAPABILITY
- CAN BE INTEGRATED INTO EXISTING INFRASTRUCTURE



MORE POWER TO THE PEOPLE.

Incorporate high levels of interactivity into your transit system with built-in options for On Demand RideShare and FareShare apps to engage your riders with efficiency and gamification. Allow for door-to-door service according to your community's needs.

Complete paratransit integration is built into the VE-LRT system for the ultimate level of social inclusion. This is a system geared for success and community support.

Constructs Quickly. Self-Financing. It's Time To Get On Board!

Value-Engineered LRT systems are not only good for the environment; it is responsive to the needs of all society. That includes complete integration with municipal paratransit programs and ease of accessibility for everyone, for now and into the future.

Easily integrated into existing networks, VE-LRT is a thoroughly reliable transit system even with typical Canadian weather challenges. Immune to derailment, line stoppages and other common issues with other transit modes, in worst-case weather there are no rail switches or signal sensors to fail. If snow or ice conditions are extreme and cover rails, vehicles operate on tires. And it pays for itself with ridership on most arterial bus routes.

ADDRESSING THE NEEDS OF ALL TRANSIT STAKEHOLDERS

- **Communities** get sophisticated, efficient and reliable rail transit
- **City Planners** can fit the VE-LRT system into most existing LRT and BRT transit plans
- **Fast construction** with system completion in just three years
- **Environmentally-conscious** with the smallest carbon footprint currently possible
- **Taxpayer-friendly** with self-financing on most existing arterial bus routes
- **Operators** by integrating with existing bus, heavy and light rail stations
- **Paratransit riders** with integrated door-to-door service
- **Visually appealing** with no overhead pantographs and catenary wires
- **Includes smaller vehicles** for door-to-door service option

How It Works: VE-LRT Made Easy.

A quick look at how the Value-Engineered-LRT system works, how it's maintained and how trouble-free transit is now available to your community.



CHARGE IT! A SYSTEM THAT NEVER RUNS OUT OF JUICE.

The MTS VE-LRT Flash Charging system minimizes line losses while reducing the normally expensive and time-consuming grid construction requirements.

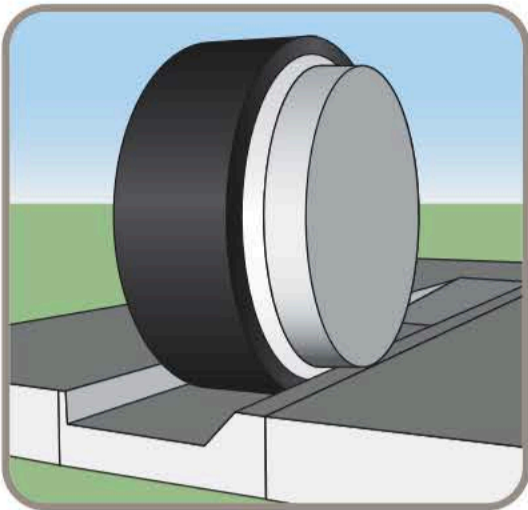
The system integrates easily into existing municipal grids and is a clear (and safer) alternative to unsightly overhead wires and third rails used in other bus and rail systems. And it is much more weather-resistant than exposed electrical lines.

- 1** Constantly charges until ultracapacitor is fully charged, with approximately 30 Kw in 5 minutes or less
- 2** VE-LRT vehicle makes contact with ultracapacitor and draws 15 Kw within about 30 seconds, enough energy to get to the next Flash Charger + extra
- 3** After departure of VE-LRT vehicle, constantly charges until ultracapacitor is fully charged with approximately 30 Kw, taking 5 minutes or less

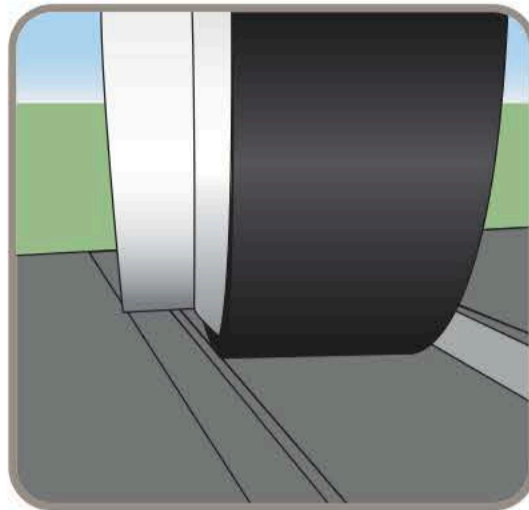


HITTING THE ROAD: GOING WHERE NO LRT HAS GONE BEFORE

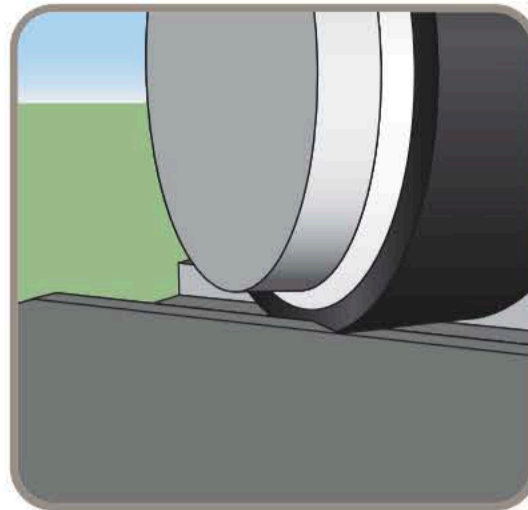
MTS Value-Engineered-LRT technology provides your transit system with the ultimate advantage over traditional transit systems. It is not limited to rails or roadways, providing your community with unprecedented transit options.



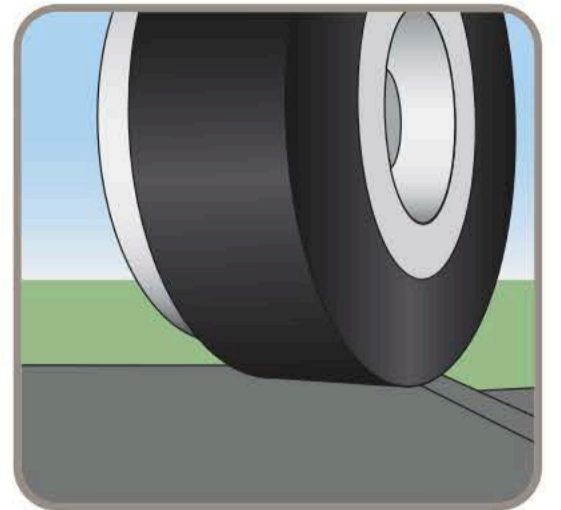
The VE-LRT approaches the end of the rail portion of its route, where the vehicles' tires assume the weight load from the steel wheels as the rail ends.



The rubber tires are now carrying the vehicle as the steel wheel disengages from the steel rail. Once the tires are in use, the vehicle is able to steer.



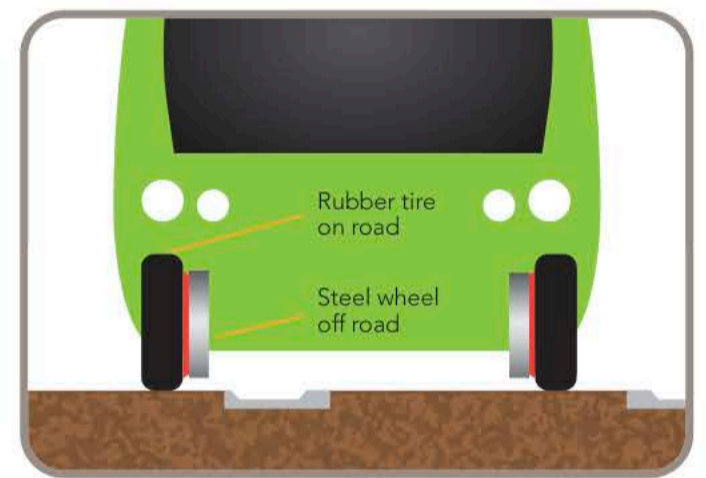
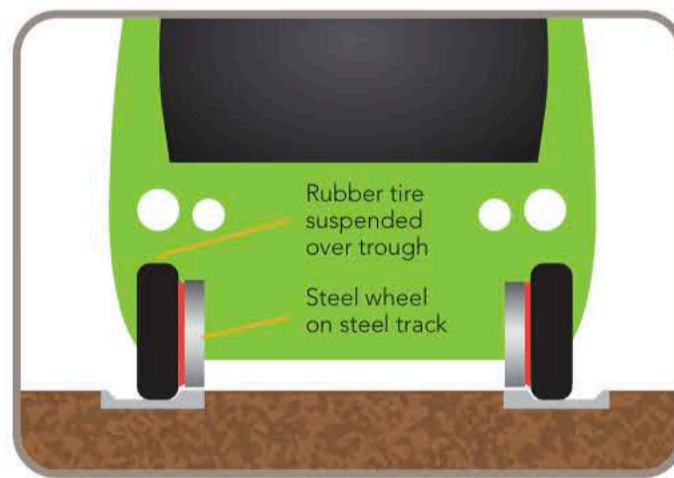
With the tire now in control, the vehicle can be turned. The steel wheels are now high enough from the rail trench edge to avoid damage when turning.



Once the tire is free of the rail trench the VE-LRT can essentially be operated like a bus.

HOW ON/OFF RAIL TECHNOLOGY WORKS

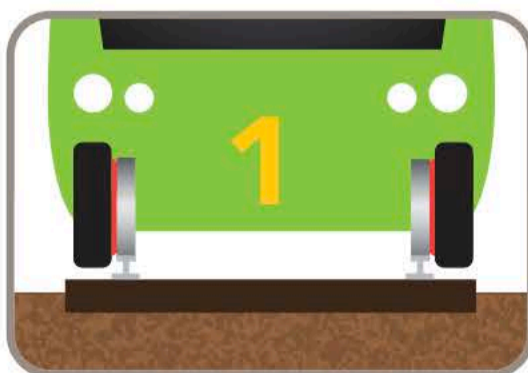
On/Off Rail Technology is a purely mechanical cam action. It eliminates the need for switches and allows the Value-Engineered LRT vehicle to use existing infrastructure like maintenance barns and shunting yards. The on-road capability means the vehicles can pass each other, other traffic, go door-to-door, climb hills and deal with snow the same as a bus.



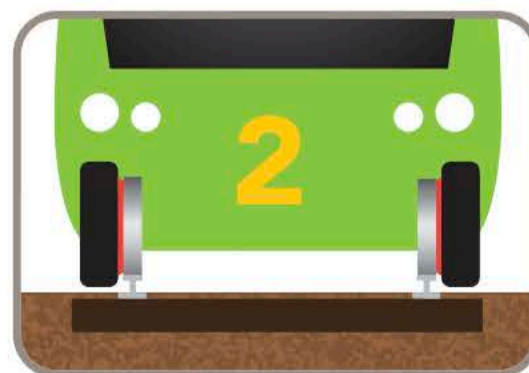
The on/off rail technology has the VE-LRT vehicle riding on steel wheels on a steel track while the 'tire' rotates with the steel wheel but not touching the ground. It hovers over a 'trough' that is about 1/2" below the tire. Tires can rotate to leave track as needed.

RAIL TO ROAD TRANSITION: A SMOOTH MOVE

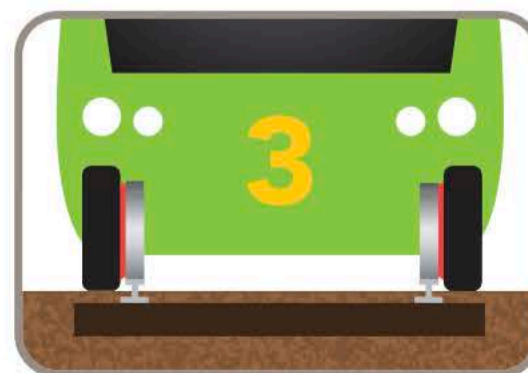
A simple mechanical cam action that alternates between steel wheels riding on steel rails and rubber tires allows the Value-Engineered LRT vehicle access to roads, or to drive to maintenance stations or to off-route charging stations. This technology reduces the need for—and the cost of—intensive infrastructure and use of concrete.



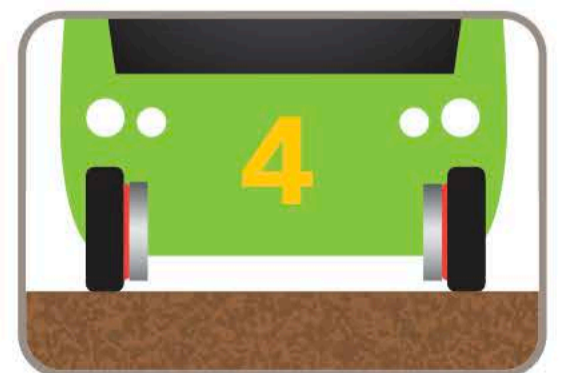
The steel wheels ride on the steel rails; tires are protected by special flange rings (shown in red). Rail ties are exposed above ground.



The surface adjacent to rail rises to transition to road mode. Tires rotate with steel wheels, suspended above the surface.



Rising surface contacts tires, lifts steel wheel off rails. Tires make contact surface, assuming vehicle load, raising vehicle off rails.



Rising surface buries rails; vehicle is on tires, riding surface and able to turn, drive to maintenance facilities or charging station.

As Green As It Gets. Full Stop.

Our transit systems are safe and reliable, resilient to the negative consequences of climate change. VE-LRT checks all the boxes—and it's easier on the public pocketbook!



A POSITIVE ENVIRONMENT: VE-LRT SYSTEMS RESPECT THE TRADITIONAL 'THREE R'S'

REDUCE:

- Engineering time
- Construction and disruption time

REUSE:

- Existing roads
- Existing rail beds
- Existing eBuses

RECYCLE:

- Convert existing diesel buses to electric

GOES FURTHER, LASTS LONGER. MOTHER NATURE WILL APPROVE.

Requiring much less intensive, less invasive construction means our transit system can be implemented faster and with far less damage to the environment and less disruption to the people in your community. And a *lot* less concrete used in the process, one of the largest sources of environmental damage in infrastructure work.

And there are many more benefits. Increased social cohesion and buy-in from the public who will suffer through less disruptions, delays, derailments and line stoppages. And benefit from secure pay-to-access platforms with climate control.

Sustainably upgrade your bus routes to rail; create a network of safe, clean, green transit options for your community!



SO LONG TO AN UGLY PAST!

Our VE-LRT system means no more overhead wires, no wasted expanses of railway yards, and a lot less maintenance and need for environmentally harmful concrete.

Get A Rail Transit System For The Price Of A BRT Line.

Value-Engineered-LRT systems provides a world-class ridership experience, with a faster build time, lower infrastructure costs and value-added social, environmental and cost advantages over any other transit option. It fits all existing transit infrastructure which means you already have the groundwork for this revolutionary system.

The combination of low capital investment and high ridership means the system is self-sustaining. And accessible to all.

Imagine: a system that pays for itself, removing the burden of transit from the shoulders of the taxpayer – and all levels of government.

IT'S ABOUT TIME: YOUR CITY IS GROWING. CHOOSE VALUE-ENGINEERED LRT – A SYSTEM THAT CAN GROW WITH IT!

A transit system is a huge commitment in time, money, and — for decision makers, political capital. The very long time from contract to operation for traditional LRT systems is due to the need to plan for and

construct massive rail foundations, pantograph poles and wires, dedicated signage and signals, crossings at intersections, and overpasses and underpasses, all while dealing with underground utilities.

THE MTS VE-LRT SYSTEM PUTS TIME ON YOUR SIDE WITH A 24-36 MONTH IMPLEMENTATION PROCESS. LET US SHOW YOU HOW TO GET THERE:



THE VE-LRT HAS ARRIVED. GET ON BOARD!

- MOST LINES WILL SELF-FINANCE WITH A 10-YEAR PAYBACK
- HAS THE SMALLEST CARBON FOOTPRINT OF ALL SYSTEMS
- IS READILY ELECTRIFIABLE
- RAIL SOPHISTICATION WITH BREAKDOWN AGILITY
- IS 100% PARATRANSIT-CAPABLE
- ALLOWS FOR FLEXIBILITY AND DOOR-TO-DOOR SERVICE
- BRINGS MULTI-MODE EFFICIENCY TO YOUR CITY

Creating Tomorrow's Transit Systems Today, Sustainably. One City At A Time.

Value-Engineered LRT (VE-LRT) combines the best features of LRTs, Electric Buses and Fast Construction Techniques, creating total transit solutions that meet the social, environmental and fiscal needs of 21st-Century communities.

Municipal Transit Solutions Inc. (MTS) is a consortium of firms aligned to deliver top value for money that can only come from a new approach, free of industry bias and obsolete established practices. Contact us today for more information on how we can help you to achieve the best transit solutions for your community.

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