

SMART BUS BENEFIT SUMMARY

The SMART BUS Initiative is expected to deliver the following benefits:

For Transit Riders:

Benefits	Description
MORE PREDICTABLE BUS SERVICE	Through access to real-time information, riders are able to predict the arrival of their bus at a stop including if it's delayed for some reason. Third party applications could publish this information through the City's Open Data Initiative.
SAFER TRANSIT EXPERIENCE	By integrating security cameras into the solution, Edmonton Transit can react to emergency situations faster by viewing streaming video and dispatching the correct resources to an exact location using GPS readings.
IMPROVED ACCESSIBILITY	The automated announcement of the next bus stop creates a more user-friendly and accessible public transportation service for an increasingly diverse population.
MORE RELIABLE SERVICE	Operators and the Transit Control Centre can monitor the real-time status of buses compared to the planned schedule enabling them to more closely adhere to schedules.

For City Operations:

Outcome	Description
POTENTIAL SAVINGS	While the primary reason for Smart Bus is to enhance the transit experience for ETS riders in line with City Council's strategic 'Ways', there is potential for operating and capital cost savings in several areas. The potential savings noted below are in order of magnitude only, and are only possible with full fleet implementation of Smart Bus. The saving estimates will be further refined during the pilot project.
REDUCED SPARE RATIO	Reduced spare ratio enabled through active vehicle health monitoring, allowing Edmonton Transit to operate a larger percentage of the fleet to deliver additional service where it is most required. \$2.1 million – estimated annual capital cost avoidance.

REDUCED CHANGEOVERS	Reduced changeovers through improved monitoring of vehicle health before the bus leaves the garage. \$70,000 – estimated annual operating savings.
REDUCED CALLS TO 311	Access to real-time bus information through self-serve options will reduce the need to call 311 to check on the status of missed or late buses. \$100,000 – estimated annual operating savings.
REDUCED MAINTENANCE EFFORT	Reduced maintenance effort through monitoring of bus health. Problem diagnostic codes are automatically downloaded reducing effort needed to diagnose problems. \$330,000 – estimated annual operating savings.
IMPROVED FUEL ECONOMY	Improved fuel economy through active monitoring of vehicle operation enabling targeted Fuel Sense training where it will deliver the most benefit and over the longer term ensure that transit vehicle operation continues to align with fuel saving objectives. \$800,000 – estimated annual operating savings.
MONITOR THE SERVICE IN A MORE EFFICIENT AND EFFECTIVE MANNER	Managing transit service delivery is a complex activity that can require dispatching and monitoring hundreds of vehicles at once. ITS application have revolutionized the once-laborious tasks of gathering information, making rapid decisions and communicating instructions – making them faster, easier and more effective. The number of transit field supervisory staff has not kept pace with the growth of bus service. In the absence of Smart Bus, an increase of at least 10 field personnel is needed to maintain manual service monitoring. \$1.0 million – estimated annual operating cost avoidance.
REDUCED NEED TO GROW LRT PARK AND RIDE	Access to real-time bus arrivals and departures combined with improved bus and LRT schedule coordination should increase the number of transit riders using buses to access LRT and reduce the demand to grow Park and Ride lots. \$2.0 million – estimated annual average capital cost avoidance excluding land costs and associated operating costs.

Note: Capital cost avoidance savings have been averaged over a five-year period.