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DOWNTOWN EVENT & ENTERTAINMENT DISTRICT

BRT Network Cost Benefit Analysis

As part of the due diligence on establishing a Bus Rapid Transit (BRT) system in Saskatoon, a comprehensive cost benefit analysis was conducted for the entire BRT Network and not just the Downtown portion. Once operational the BRT Network will be a critical piece of the City's transportation infrastructure that is needed to move large numbers of people to and from the downtown in the most efficient way.

The cost benefit study uses a Multiple Account Evaluation (MAE), a type of socio-economic evaluation of investments that incorporates a wide range of user, financial, environmental, and broad socio-economic impacts that serve as evaluation criteria. Multiple account benefit-cost analysis is the best method for assessing economic impacts—as well as other environmental and social impacts—because it combines economic impact analysis, benefit-cost analysis, and other methods of environmental impact assessment into a single, comprehensive evaluation framework that provides decision-makers with a transparent and systematic assessment of project impacts and trade-offs.

This cost-benefit analysis finds that the proposed BRT is expected to generate significant quantitative benefits to the City of Saskatoon that far exceed total costs of the project. The analysis shows that the project would generate between $69 million and $169 million depending on the discount rate over the life of the project, proving to be both financially and economically viable for Saskatoon.

Qualitative benefits of the project, essentially improved quality of transportation, convenience, greater mobility for a wide range of population groups (including disadvantaged groups and those who do not drive), further strengthen the cost-benefit analysis.

BENEFITS*

$100K
Pavement Maintenance Cost Avoidance

$17.6M
Agency Benefits
(Fare Revenue)

$72M
Economic Development

$6M
Safety Benefits

$500K
Environmental Benefits
(emissions avoided)

$179M
User Benefits
(travel time, etc)

$4.1M
Other Benefits
(improved health due to higher physical activity)

*Numbers are based on 3% discounted rate.

	Values over Analysis Period by Discount Rate $(Millions)		
	3%	8%	Undiscounted
BENEFITS			
State of Good Repair			
Pavement Maintenance Costs Avoided	$0.1	$0.0	$0.08
User Benefits			
Value of Travel Time Savings Auto Users	$13.3	$7.1	$20.47
Cost Savings to Diverting Auto Users	$26.0	$14.4	$39.00
Travel Time Impacts to Diverting Auto Users	-$24.8	-$13.6	-$37.35
Benefit to Induced Riders	$19.6	$10.6	$29.78
Benefit to Existing Transit Users	$145.4	$78.8	$221.22
Economic Development Benefits			
Livability Benefits	$72.0	$51.9	$88.45
Safety Benefits			
Costs of Auto Accidents Avoided	$6.0	$3.3	$9.04
Environmental Benefits			
GHG Emissions Avoided	$0.4	$0.2	$0.55
Air Emissions Avoided	$0.1	$0.1	$0.15
Agency Benefits (Fare Revenues)	$17.6	$9.8	$26.43
Other Benefits			
Health Benefits of Higher Physical Activity	$4.1	$2.3	$6.13
Total Benefits	**$279.8**	**$164.9**	**$403.96**
COSTS			
Construction Costs	$96.8	$87.8	$103.00
Operations and Maintenance Costs	$13.6	$7.8	$20.00
Total Costs	**$110.4**	**$95.6**	**$123.00**
Net Benefit to Saskatoon	**$169.4**	**$69.3**	**$280.96**

The following are the key assumptions that frame the entire analysis:

- All monetary values are expressed in 2017 dollars.
- The period of analysis begins in 2019 and ends in 2041. It includes 3 years of project development and construction years (2019-2021) and 20 years of operations from 2022 to 2041.
- The benefits of BRT are assumed to be fully realized starting from the first year of full operations in 2022, i.e. no ramp-up to benefits realization is assumed.
- Quantified and monetized benefits and impacts are evaluated at a constant 3% real discount rate, and at an 8% discount rate.
- The base year of the analysis is 2018, i.e. all monetized benefits and impacts are discounted to that year.
- The quantified impacts shown in this document correspond to the effects of the build alternative at the mid-point of ridership estimates, at the level of 10,000 average daily trips.
- The model assumes a $30/tonne carbon charge based on BC/Alberta rates at the time. A higher carbon charge would increase the environmental benefits of the BRT project.

The study was completed by HRD, Inc. in March 2018. The full report was tabled at a Special Governance and Priorities Committee meeting held on June 20, 2018, Agenda Item 4.1: Plan for Growth – The Need for Change, Appendix 2.