

Mobile Equipment Services Branch
Trolley Bus Operations Review 2003

Project Charter

Project Scope

Purpose and Objective

The purpose of this project is to investigate the current and continued viability of trolley bus operations and the possible economic benefits of increased standardization within Edmonton Transit System's fleet. The investigation will identify the comparative costs, service variances, and environmental impacts of trolleys versus diesels for Edmonton's bus fleet operations.

A previous trolley bus system review was conducted in 1993. It was the basis for a subsequent recommendation that the trolley bus fleet operations be maintained and maximized to the year 2010. There are 59 active trolleys that operate on an independent electric powered overhead system with 39 buses in service on average. An active regular diesel fleet of 713 buses books out at 590 for service. The 25 community service buses and the 37 car LRT units are not considered in the context of this charter.

A host of developments including strategic procurement objectives and standardization advantages over the last ten years have substantially impacted the viability of operating the trolley bus fleet component in the City of Edmonton. A trolley bus fleet operations review is warranted at this time to examine its viability.

Trolley bus operations viability factors:

- Rising current and forecasted operating costs and complexity
- Standardization of bus systems and maintenance processes
- Emission effects and public health impact
- Synchronized environmental effectiveness strategy for the bus fleet
- Life cycle costing comparison to diesel for the total cost of ownership over life expectancy considering replacement, operation, maintenance and salvage on an annual basis.
- **Service level improvement opportunities presented by reconfiguration of routes without overhead power restrictions.**
- Transit route and garage location flexibility for City growth and overhead infrastructure.
- **Cold weather effects on trolley overhead lines due to frost and reliability factors.**
- Maximizing the benefits of cost effective technology improvements
- Scheduling and administrative benefits.
- Human Resource efficiencies affecting training, hiring and operating\maintenance coverage.
- Facility utilization benefits
- **Safety issues predominantly in the area of 600V overhead infrastructure**
- Back up buses and spare bus ratio optimization in maximizing usage over a minimized fleet
- Accessibility (e.g. Low Floor)
- **Overhead power line esthetics**

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The objective of the trolley operations review project is to provide sufficient information and analysis to substantiate a recommendation on the immediate future of the bus fleet operations and management strategy.

A preliminary investigation of the bus fleet's history, current status and projected impacts to City of Edmonton transit services and budgets was undertaken giving cause for this timely review. An independent study is recommended that will be documented for presentation to the Senior Management Team.

Deliverables

At the end of the project, Asset Management and Public Works will sign off a comprehensive Trolley Bus Fleet Operations Review document. The sign off will authorize the implementation of approved recommendations on the trolley bus fleet operations strategy with any new time lines and target dates. Included in this document will be:

- A historical perspective of the trolley bus fleet operations
- A current trolley bus fleet status summary with supporting data
- Trolley impact assessment with respect to emissions, health effects and the environment
- Public access and the bus fleet infrastructure analysis
- An analysis of present and future costs comparing bus fleet components
- Proposed short and long-term business strategy options including extreme change strategy impacts (i.e. standardization of bus types) concerning trolley operations
- Recommendations on the future of trolley bus fleet operations for this City

Scope

The scope of this project will cover the scheduled and routed trolley bus fleet operations and infrastructure as it relates to the City of Edmonton's Transit System. The Transit System in this context refers to the following elements:

- Service delivery
- **Maintenance and life cycle management of the bus fleet**
- Human Resource implications
- Technical, environmental and health factors
- Costing and budgeting considerations
- Bus fleet maintenance procedures and considerations
- Facilities, service support and infrastructure

Project Execution

Project Plan Summary

The project is scheduled to run from the time of acceptance of this charter as scheduled for July 24, 2003 to a presentation and acceptance early in 2004. The following is an overview of the activities to be accomplished.

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- Project Preparation

The purpose of this activity is to sign off the project charter, engage a project team and to detail a project plan.

- Investigative Work and Information Gathering

The purpose of this activity is to record and outline the facts concerning bus systems operation and the system infrastructure that supports the bus fleet. Data will be collected and documented into respective categories that represent historical progression, current status comparisons and future trends and indicators.

- Data Compilation and Analysis

City data on the bus fleet operations will contribute to the analysis. Data compilation on comparative properties running similar systems will be provided with details concerning the similarities and differences of those with the City of Edmonton. Additional data will also include environmental effects of trolley versus diesel in relation to the region and the City.

- Recommendation and Presentation

Formulation of the best strategy for the trolley bus fleet will be developed and presented in a written recommendation and presented as part of the summary.

Roles and Responsibilities

Role	Responsibility	Assignment
Project Steering Committee	<ul style="list-style-type: none"> • Approves project charter • Provide active participation and leadership • Resolves issues with the help of the project manager • Reviews work, approves deliverables • Challenge and approve deviations • Provides subject matter experts 	Bill Burn (chair) Wayne Mandryk Rick Millican Alex Lee
Project Management	<ul style="list-style-type: none"> • Creates \ maintains charter, plan, budget • Keeps project focused on deliverables • Controls the day to day project aspects 	Peter Van
Project Team	<ul style="list-style-type: none"> • Collaborates to complete work on time 	Contract Consulting Selected Transit Staff Selected MES Staff