PROJECT CHARTER

DOWNTOWN VANCOUVER CONGESTION TOLLING

CITY OF VANCOUVER

453 West 12th Ave,

Vancouver,

BC V5Y 1V4

DATE: October 1, 2024

October 1, 2024

KENNEDY STEWART
OPMT 1187
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TABLE OF CONTENTS

1. PROJECT SPONSOR

PAUL MOCHRIE
City Manager, City of Vancouver

2. PROJECT CUSTOMER

KENNEDY STEWART
Mayor, City of Vancouver

3. PROJECT DESCRIPTION

The Downtown Vancouver Congestion Tolling project would provide a pioneering effort by reducing traffic congestion in this busy city core. By implementing a sophisticated tolling system, the City of Vancouver will encourage a reduction in reliance on personal vehicles and assist people in using more efficient public transit and cycling systems. Managing the flow of traffic has far more to do with reimagining urban mobility and shaping a livable, environmentally friendly city center.

It will run on a 365-day schedule with dynamically responsive pricing to the changing demands being placed on the road network. Toll tolls will peak during Monday through Friday, 7 am-6 pm. This means that as travelers make avoidable vehicle trips, they will end up paying more due to the resultant traffic congestion. The revenue raised should be plowed back into implementing improvement in public transportation structures for a continuous cycle of better alternative solutions and reduced congestion.

The tolling zone will include the heart of downtown Vancouver from the iconic Stanley Park in the west to Carrall Street in the east. It is a well-defined area that captures the congested areas of the city with clear limits for the driver.

1. Components

Major elements of the project

1. Procurement and Installation of state of the art License plate recognition and transponder technology at all key entry points to the tolling zone.

2. Development of a friendly web platform in which the online registration and payment processing are carried out.

3. Public awareness campaigns to educate residents and visitors about the new system.

4. Consultations with businesses and local stakeholders in preparation for implementation and alleviation of worries.

5. It shall be compatible with the current traffic management systems to maximize its throughput and minimize the problem of congestion.

In that regard, by directly dealing with congestion, the project will also help in improving the air quality, reducing greenhouse gas emissions, making the town center more pedestrian-friendly, thus enhanced liveability of downtown Vancouver for everyone including people, workers, and visitors.

4. PROJECT OBJECTIVES

The following are the objectives that shall be met in order for the Downtown Vancouver Congestion Tolling project to be successful:

1. **Reduced Volume of Traffic:** A minimum of 20% decrease of the numbers of vehicles that pass through the tolling area during peak hours of the day in the first year since the start of the project.

2. **Public Transit Use:** The numbers of passengers that come to and go from downtown on public transportation are expected to increase by 15% by 18 months since the start of the project.

3. **Environmental Impact:** Reduces 10% of the city's carbon emissions in downtown area within two years since launching.

4. **Revenue Generation:** Collects $50 million annually in toll collected that may be put back into public transport systems.

5. **Public Education:** Educate 90% of residents on the Vancouver city on the benefit of congestion pricing toll before launch date.

6.**Business Satisfaction:** Obtain an overall business satisfaction of 70% or higher from the business community in downtown in relation to the impact of tolling on their operations.

7.**Technology Installation:** Install and achieve 99.9% uptime for all tolling technologies during the first month after opening.

8.**Maximizing Traffic Flow:** Reduce average travel times in the tolled zone by at least 15 percent during peak hours within six months after operations commence.

9. **Cycling and Pedestrian Activity:** Increase cycling and pedestrian activity in the downtown core by 25 percent within two years after project implementation.

10. **Emergency Vehicle Response:** Reduce emergency vehicle response time into the downtown core by at least 10 percent within a year after the operation of the tolling system is implemented.

2. Requirements

To achieve project success, the following high-level requirements must be satisfied. As the project progresses, additional requirements may be added with project sponsor approval.

Infrastructure Installation

- Install license plate recognition and transponder readers on Lions Gate, Burrard, Granville, and Cambie bridges.
- Set up similar technology at intersections with Carrall Street: Pacific, Expo Boulevard, Pender, Hastings, and Powell Streets.
- Ensure all installed technology meets government cybersecurity standards.

Street Closures and Modifications

- Permanently close Keefer St and Cordova St intersections with Carrall St.
- Implement necessary road modifications to support the new traffic flow patterns.

Signage and Information

- Design and install clear, informative signage along all major routes leading into Vancouver.
- Place additional signage at the US border crossings to inform incoming travelers.

Public Engagement

- Conduct a minimum of 6 public consultation sessions with the general public.
- Organize targeted consultations with downtown businesses, transportation providers (taxis, Uber), trucking companies, and waste management services.

Digital Infrastructure

- Develop and launch a secure, user-friendly website for vehicle registration and payment processing.
- Create a mobile application for easy access to tolling information and account management.

Public Awareness Campaign

- Design and implement a comprehensive marketing strategy to inform the public about the new tolling system.
- Utilize various media channels including TV, radio, social media, and print to reach a wide audience.

Data Management and Reporting

- Implement a robust data collection and analysis system to track traffic patterns, toll revenue, and environmental impacts.
- Develop regular reporting mechanisms to keep stakeholders informed of project progress and outcomes.

Legal and Regulatory Compliance

- Check compliance of all aspects of tolling system with pertinent municipal, provincial and federal requirements.□ Policies for the use and protection of personal information must be set and established according to the policies of Canadian jurisdiction. And federal regulations.
- Develop clear policies for data privacy and usage in line with Canadian privacy laws.

Integration with Existing Systems

- Effective new tolling system functions as:□ Compatability with existing payment system that is currently in used to pay for other city services.nd public transit systems.
- Ensure compatibility with current payment systems used for other city services

Contingency Planning

- Implement back up solutions to support tolling function in the event technology systems fail.□ Refer to a working paper by Wahl et al (2014), provide guidelines for system update and maintenance to avoid great disruption.se of technical failures.
- Create clear protocols for system maintenance and updates to minimize disruption.

3. LIMITS AND CONSTRAINTS

Constraints on the Downtown Vancouver Congestion Tolling project are as follows:

1. The budget constraint is at $15 million for the project, and any supplementary funding requests have to go through a formal procedure for approval.

2. Timeline constraint refers to a deadline set at full operation of the tolling system by September 1, 2025. The deadline is firm since commitment to the City Council and the public has been made.

3. **Regulatory Framework:** All facets of the project must be discovered to be in compliance with any existing transportation laws and privacy regulations. Only bylaw changes will be adopted if approved by the City Council.

4. **Technology Limitations:** The selected tolling technology must be compatible with the existing city infrastructure, reliable, and accurate.

5. **Public Acceptability:** Tolls have the greatest vulnerability to public acceptance. In case of adverse public opinion, it may change the direction of implementing the project and schedule.

6. **Geographical Limit:** The construction of tolling shall start between Stanley Park and Carrall Street. Outside this area, geographical reach and area shall be covered only after passing the required additional acceptance and arrangements.

7. **Effects on Environment:** The construction and implementation of tolls must not deter the green environment-it has to be an environmentally friendly exercise.

8. **Equity Considerations:** The tolling system should have provisions such that it is fair to low-income residents or essential workers.

9**. Interoperability:** Design of the system with the possibility of its interoperability with future regional tolling or transportation management systems

10. **Data Management:** Storage and handling of user data must meet strict privacy guidelines, being protected against possible security breach.

5. RISKS

Identified risks in the Downtown Vancouver Congestion Tolling project are enumerated below. Strategies for risk mitigation will be appropriately implemented to minimize both the probability and the impact of such risks.

Risk	Probability	Impact	Mitigation Strategy
Public backlash against tolling	High	High	Comprehensive public education campaign; phased implementation with initial discounts
Technical failures in tolling system	Medium	High	Rigorous testing before launch; redundant systems; 24/7 technical support team
Revenue shortfall	Medium	High	Conservative initial pricing; flexible pricing model to adjust based on usage patterns
Privacy concerns over data collection	High	Medium	Transparent data policies; strict security measures; limited data retention
Negative impact on downtown businesses	Medium	High	Consultation with business owners; potential compensation or tax relief programs

Risk	Probability	Impact	Mitigation Strategy
Increased congestion in areas bordering the tolling zone	High	Medium	Traffic monitoring in adjacent areas; adaptive traffic light systems
Delays in equipment delivery or installation	Medium	Medium	Early procurement; multiple vendor contracts; buffer time in project schedule
Legal challenges to the tolling system	Medium	High	Thorough legal review before implementation; contingency fund for potential lawsuits
Difficulty in enforcing toll payments	Low	Medium	Integration with vehicle registration system; clearly defined penalties for non-payment
Cybersecurity threats to the tolling system	Low	High	Regular security audits; encryption of all sensitive data; incident response plan

6. KEY STAKEHOLDERS

The following table outlines the key stakeholders for the Downtown Vancouver Congestion Tolling project, their goals and motivations, recommended actions, and their levels of interest and influence.

Stakeholder	Goals, Motivation, Interest	Action	Level of Interest	Level of Influence
City of Vancouver Transportation Department	Reduce congestion, improve traffic flow, promote sustainable transportation	Key Player	High	High
Mayor and City Council	Improve quality of life for residents, demonstrate environmental leadership	Keep Informed	High	High
Downtown Vancouver Business Improvement Association	Ensure accessibility for customers and deliveries, maintain economic vitality	Consult	High	Medium
TransLink (Metro Vancouver's transportation network)	Integrate tolling with public transit, increase ridership	Collaborate	High	Medium
Vancouver residents and commuters	Reduce travel times, improve air quality, understand new system	Engage	High	Low
Environmental advocacy groups	Reduce emissions, promote sustainable transportation	Consult	High	Low
Tourism Vancouver	Maintain city's attractiveness to visitors	Keep Informed	Medium	Low

Stakeholder	Goals, Motivation, Interest	Action	Level of Interest	Level of Influence
Emergency Services (Police, Fire, Ambulance)	Ensure rapid response times, understand system exemptions	Consult	Medium	Medium
Technology vendors	Provide reliable and effective tolling solutions	Manage	Low	Medium
Media outlets	Report on project progress and impact	Keep Informed	Medium	Medium

7. PROJECT DELIVERABLES

The following deliverables must be completed to successfully finish the project and satisfy key stakeholders:

Tolling Infrastructure

- Fully operational license plate/transponder readers on all specified bridges and intersections
- Signage installed at all entry points to the tolling zone and along major routes into Vancouver
- Backup power systems and redundant data connections for all tolling points

Street Modifications

- Completed closure of Keefer St and Cordova St intersections with Carrall St
- Updated road markings and traffic flow patterns around the tolling zone

Digital Systems

- Launched and tested website for vehicle registration and payment processing
- Mobile application for toll management available on iOS and Android platforms
- Backend systems for data processing, billing, and reporting

Public Engagement and Awareness

- Completion of 6 public consultation sessions
- Documented feedback and action plans from consultations with businesses and service providers
- Multi-channel marketing campaign materials (TV, radio, print, digital)
- Information packages for distribution to all Vancouver households

Operational Procedures

- Detailed operating procedures for toll collection and enforcement

- Training materials for all staff involved in system operation and customer service
- Incident response plans for various scenarios (system outage, natural disasters, etc.)

Legal and Regulatory Framework

- Approved bylaws and regulations governing the tolling system
- Privacy impact assessment and data management policies
- Agreements with law enforcement for toll violation processing

Integration and Testing

- Completed integration with existing traffic management systems
- Full system test reports including stress testing and security audits
- Acceptance testing sign-off from all relevant departments

Monitoring and Evaluation System

- Implemented data collection mechanisms for traffic patterns, air quality, and other key metrics
- Dashboards for real-time monitoring of system performance and revenue
- Defined key performance indicators (KPIs) and reporting templates

Contingency and Future Planning

- Documented scalability plans for potential expansion of the tolling zone
- Interoperability standards for future regional integration

Project Documentation

- Comprehensive project closure report
- Lessons learned document
- Handover package for ongoing operations and maintenance

8. SUMMARY MILESTONE SCHEDULE

The key milestones for the Downtown Vancouver Congestion Tolling project are outlined in the following schedule. As the project progresses, this schedule may be modified to accommodate more defined requirements, with any changes addressed in team meetings arranged by the project manager.

Milestone	Target Date
Project Kickoff	October 15, 2024
Completion of Initial Design and Planning	December 1, 2024
Start of Public Consultation Phase	January 15, 2025

Milestone	Target Date
Completion of Public Consultation Phase	February 28, 2025
Begin Tolling Infrastructure Installation	March 15, 2025
Launch of Public Awareness Campaign	May 1, 2025
Completion of Tolling Infrastructure Installation	July 31, 2025
System Integration and Testing Phase	August 1-15, 2025
Staff Training Completed	August 20, 2025
Soft Launch of Tolling System	August 25, 2025
Official Go-Live of Congestion Tolling System	September 1, 2025
First Quarterly Review	December 1, 2025
Project Closure and Final Report	January 15, 2026

9. SUMMARY BUDGET

The total budget allocated for the Downtown Vancouver Congestion Tolling project is $15,000,000 CAD. This budget is divided into the following high-level categories:

Category	Allocation (CAD)	Percentage
Tolling Infrastructure and Technology	$7,500,000	50%
Road Modifications and Signage	$2,250,000	15%
Public Engagement and Marketing	$1,500,000	10%
Digital Systems Development	$1,125,000	7.5%
Project Management and Staffing	$1,125,000	7.5%
Legal and Regulatory Compliance	$750,000	5%
Contingency Fund	$750,000	5%
Total	**$15,000,000**	**100%**

Note: This is a high-level budget estimate. Detailed budgeting will be conducted during the planning phase of the project, and any significant deviations will require approval from the Project Sponsor.

10. PROJECT APPROVAL REQUIREMENTS

Success for the Downtown Vancouver Congestion Tolling project will be achieved when all major components have been accomplished within the time and cost constraints indicated in this charter. The Project Sponsor, Paul Mochrie, will authorize the completion of the project based on the following criteria:

1. **Infrastructure implementation:** All tolling points are available with an uptime of 99.9% over a 30-day period.
2. **Traffic Reduction:** A minimum reduction of 10% in vehicle traffic through the tolling zone during peak hours within the first month from full operation is preliminary data shown.
3. **Increase in Public Transit Usage:** At least a 5% increase in the use of public transit towards and away from the central business district within the first month.
4. **Revenue Collection:** The tolling system starts generating revenue as initially forecasted and within the set budget variations of 10% as of the first month after its operationalization.
5. **Public Awareness**: Surveys indicate that at least 85% of Vancouver residents are aware of the congestion tolling system and its primary objectives.
6. **Technical Performance**: The tolling system, including all digital platforms, operates without major incidents (defined as outages lasting more than 1 hour) for the first 30 days.
7. **Legal Compliance**: Confirmation from the City's legal department that the system is operating in full compliance with all relevant laws and regulations.
8. **Stakeholder Satisfaction**: Initial feedback from key stakeholders, including the Downtown Vancouver Business Improvement Association and TransLink, is predominantly positive.
9. **Environmental Impact**: Preliminary air quality measurements show a noticeable improvement in the downtown core, with at least a 5% reduction in key pollutants.
10. **Operational Readiness**: All operational procedures are in place, staff are fully trained, and customer support systems are functioning effectively.

The Project Sponsor will review these criteria 60 days after the official launch of the tolling system. If all criteria are met, the project will be considered successfully completed. If any criteria are not met, the Project Manager will present a remediation plan for approval.

11. EXIT CRITERIA

The following exit criteria will be used to determine the successful completion of each project phase:

Initiate Phase

- Project charter is approved by the Project Sponsor

- Project Manager is officially appointed
- Initial funding is secured
- Stakeholder register is created

Planning Phase

- Detailed project management plan is completed and approved
- Scope statement is finalized
- Work Breakdown Structure (WBS) is created
- Project schedule is developed and baselined
- Budget is detailed and approved
- Risk management plan is in place
- Communication plan is developed
- Procurement plan is approved

Execution Phase

- Tolling infrastructure installation is completed
- Digital systems (website, mobile app) are developed and tested
- Public engagement sessions are conducted
- Marketing campaign is launched
- Staff training is completed
- Legal and regulatory requirements are met

Monitoring & Control Phase

- Regular status reports show adherence to project plan
- Change requests are properly managed and documented
- Risks are actively monitored and mitigated
- Quality assurance checks are performed and documented

Closing Phase

- All deliverables are completed and accepted by the Project Sponsor
- Project documentation is finalized and archived
- Lessons learned session is conducted and documented
- Final project report is submitted and approved
- Project resources are released
- Formal project closure is obtained from the Project Sponsor

Each phase must meet these criteria before the project can move to the next phase. The Project Manager is responsible for ensuring that all exit criteria are met and documented before declaring a phase complete.

12. PROJECT MANAGER

SARAH CHEN is appointed as the Project Manager for the Downtown Vancouver Congestion Tolling project. Ms. Chen's responsibilities include:

Project Planning and Execution

- Develop and maintain the project management plan
- Define and manage project scope, schedule, and budget
- Identify and manage project risks
- Ensure the project adheres to quality standards

Team Leadership

- Lead and motivate the project team
- Assign tasks and responsibilities
- Facilitate problem-solving and decision-making within the team
- Manage team performance and provide feedback

Stakeholder Management

- Identify and manage relationships with all project stakeholders
- Ensure effective communication with stakeholders at all levels
- Manage stakeholder expectations and resolve conflicts

Reporting and Communication

- Provide weekly status updates to the Project Sponsor
- Conduct regular team meetings
- Prepare and present project reports to senior management and City Council as required

Vendor Management

- Oversee the selection and management of project vendors and contractors
- Ensure all procurements comply with City of Vancouver policies and procedures
- Manage vendor performance and contract compliance

Change Management

- Implement and manage the change control process
- Assess the impact of proposed changes on project scope, schedule, and budget
- Obtain necessary approvals for changes

Risk Management

- Identify potential risks to the project
- Develop and implement risk mitigation strategies
- Monitor and report on project risks regularly

Quality Management

- Ensure all project deliverables meet defined quality standards
- Implement and oversee quality control processes
- Conduct regular quality audits

Compliance and Governance

- Ensure the project complies with all relevant laws, regulations, and City policies
- Maintain project documentation in accordance with City of Vancouver standards
- Adhere to project governance framework

Project Closure

- Oversee the orderly closure of the project
- Ensure all deliverables are completed and accepted
- Conduct post-project review and document lessons learned

Ms. Chen is authorized to:

- Approve project expenditures up to $100,000 CAD without additional approval
- Negotiate with vendors and contractors within the approved budget
- Make staffing decisions for the project team
- Implement approved changes to the project plan

Any decisions or changes beyond these parameters must be escalated to the Project Sponsor, Paul Mochrie, for approval.

13. ASSUMPTIONS

The following assumptions have been made in the planning of this project:

1. **Political Support**: The project has full support from the Mayor and City Council throughout its duration.
2. **Budget Availability**: The full project budget of $15 million CAD will be available as needed throughout the project lifecycle.
3. **Public Cooperation**: The majority of Vancouver residents will comply with the new tolling system once it's implemented.
4. **Technology Reliability**: The chosen tolling technology will perform as specified by the vendors.
5. **Resource Availability**: Necessary staff and contractors will be available when required for project activities.
6. **Legal Authority**: The City of Vancouver has the legal authority to implement congestion tolling without requiring changes to provincial legislation.

7. **Data Quality:** All the existing traffic data collected for planning and projections are accurate and valid.
8. **Stakeholders Involvement:** Necessary stakeholders will be involved in consultation meetings and will respond effectively.
9. **Infrastructure:** The infrastructure of the roads can easily be adapted to installing tolling equipment without significant changes.
10. **Economic Stability:** The economic environment of Vancouver will be stable within the project duration with no disruptions that may have a huge impact on traffic behavior.
11. **Adverse Weather:** It is expected that no adverse weather will be encountered in the course of heavy installation work that may cause severe delay on construction of tolling infrastructure.
12. **Demand for Public Transport:** The public transport system is expected to increase demand in the creation of a toll system.

These assumptions will be monitored during the project. Those that do not hold will be analyzed and quantified in relation to a project impact, and necessary adjustments shall be made on the project plan.

14. CONSTRAINTS

The project is subject to the following constraints:

1. **Timeline:** The tolling system must be implemented by September 1, 2025, to meet the demand of the beginning of the new school season and movement of students back to school.
2. **Budget:** The project has been initiated to be executed within $15 million CAD.
3. **Scope:** Tolling zone is as defined in project description and is limited to area between Stanley Park and Carrall Street.
4. **Technology:** The tolling system should be integrated into the current IT system applicable in the City of Vancouver and should have secure IT compliance.
5. **Legal:** It means that all the activities and deliverables in the frame of the work must correspond to the municipal, provincial, and federal legal requirements.
6. **Environmental:** To be implemented in Vancouver, the project has to follow the environmental standards of the city as well as the sustainability principles.

7. **Public Opinion:** It implies that implementation has to be done in parallel with public acceptance so that small level backlash does not occur that can harm the project.
8. **Equity:** The tolling system must have provisions that look at how the poor or employees who are L unanswered by their employers would be affected.
9. **Data Privacy:** The collection and use of data must be challenge by privacy laws and must also be responsive to the expectations of people regarding their personal information.
10. **Interoperability:** This should leave the system in a position that it can easily integrate with other regional transport systems in the future.

15. AUTHORIZATION

Approved by the Project Sponsor:

_____ Date: _____ Paul Mochrie City Manager, City of Vancouver

Accepted by the Project Manager:

_____ Date: _____ Sarah Chen Project Manager, Downtown Vancouver Congestion Tolling Project