



Autonomous Vehicle Testing - Risk Register

Risk Title	Risk Description	Existing Controls or Treatment Techniques in place	Likelihood	Impact	Risk Rating	Trend	Summary of Risk Rating	Key Risk Indicators	Council Priority					Significant Improvement required? (Y / N)	Summary of Improvement Activities	In Progress and Status	Owner	Notes
									P	N	M	H	W					
Risk title	Risk Description:	List the 5 most important controls which are currently in place, add a succinct description where necessary			High Medium Low	Indicate whether risk is: Increasing ↑ Decreasing ↓ Stable ↔	(If Risk Rating is increasing or decreasing, indicate top 3 reasons)		✓	✓	✓	✓	✓	Yes: Improvement is required No: Improvement not required NA: Risk has not been assessed	List key control activities to be implemented or If risk level is to be increased, what key controls can be removed? Indicate the proposed completion date for each activity (e.g. 2018 Q3 or 2019)		List risk owner	Additional notes as required
1	Safety of Testing Activities	Allowing testing on technology using City assets could introduce safety concerns to the public and City staff should testing encounter problems	Medium	Medium	Medium	↓	1. As AV technologies improve, the risks of major incidents during testing should decrease 2. As the technology moves closer to being market-ready, preservation of reputation will become more important	Results of testing in other jurisdictions or locations (generally)	✓					Yes	1. Develop process to formalize insurance and indemnification requirements before allowing testing. 2. Require the applicant provide a history of previous testing so that there is some proof of previous success 3. Require applicants to do testing in low-demand times and locations as much as possible	In Progress	Transportation, CED to develop process if approved	
2	No applications for testing submitted	Since AV testing is being increasingly allowed in other jurisdictions, and Calgary is neither a technology or automotive hub, it is possible that there will be little or no take-up for testing	Medium	Low	Low	↔	Variety of jurisdictions allowing testing and the nature of the conditions around testing		✓					Yes	1. While protecting City interests, strive to make application process simple and minimize red tape. 2. Establish a single, point person to coordinate all intake requests to simplify the process. 3. Could look at a promotional campaign to attract submissions	In Progress	Transportation, CED to develop process if approved	Any promotional activities would need to be funded within existing budgets
3	Low merit applications	Establishing a formal process could result in low merit applications that consume City time and resources with little or no economic benefit	Medium	Medium	Medium	↔	Monitor overall nature of applications and periodically		✓					Yes	1. Develop process to formalize insurance and indemnification requirements before allowing testing. 2. Require the applicant provide a history of previous testing so that there is some proof of previous success	In Progress	Transportation, CED to develop process if approved	
4	Damage to City Assets	Testing activities could result in damage to City assets	Low	Low	Low	↔	Results of testing in other jurisdictions or locations (generally)		✓					Yes	1. Require applicant to return City Assets to previous condition (or better) after testing complete. 2. Consider requiring a deposit be made prior to testing to address potential issues. 3. Ensure insurance and indemnification agreements are in place prior to testing	In Progress	Transportation, CED to develop process with law if approved	
5	Inconvenience to citizens	Testing activities could result in disruption or delay to citizens	Low	Low	Low	↔	Results of testing in other jurisdictions or locations (generally)		✓					Yes	1. Require applicant to do testing in low-demand times and locations as much as possible. This would be negotiated depending on the risk and in conjunction with other activities.	In Progress	Transportation, CED to develop process if approved	

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6	Cybersecurity risks	Companies will not access the City's corporate networks. Dark fibre can be leased by vendors to build private networks.	Low	Low		↔							✓	Yes	Fiber access may not be available in all locations. Work with CED to establish preferred areas. Companies may pay to build fibre to specific locations.	In Progress	Transportation, IT	The City's broader smart-cities initiative may be a more suitable path for some requests.
7	Inefficient City resources	Existing budgets for business units	Medium	Low		↔	Work with Bus on a continual basis to identify any emerging costs that are not being covered by applicants	✓					✓	Yes	1. Look to establish a single point person to coordinate all intake requests to simplify the process. 2. Work with AT to ensure that there is corporate alignment to respond to requests in a place and manner that is efficient. 3. Monitor internal costs and other capture costs or work to eliminate costs that are not being covered by applicants	In Progress	Transportation, CED to monitor and assess	The objective would be to allocate resources and staff within existing budget allotments.
8	The City is sued	If something unforeseen happens, the City could be sued for damages.	Low	Low		↔	Results of litigation in other jurisdictions or locations						✓	Yes	1. Require insurance and indemnification on behalf of the City prior to any testing.	In Progress	Transportation, working with Law	The objective would be to ensure that litigation risks are no more significant than conducting normal business.
9	Legislation is a barrier	Existing provincial and municipal legislation regulate activities	Medium	Medium		↓	1. Updating legislation with respect to AVs is part of the Alberta Transportation work program.		✓					Yes	1. Transportation is working with the Province to address timelines and content around enabling legislation for AV testing.	In Progress	Transportation, working with Law and Alberta Transportation	
10	Measure economic benefits	The broader economic benefits of such a program do not justify the City's efforts	Low	Low		↔	Number and scale of testing applications	✓						Yes	1. Collect information on applicants to assess broader potential economic impacts	In Progress	CED, working with Transportation	
11	Testing is used to circumvent procurement policies	Alignment with existing corporate procurement policies	Medium	Low		↔		✓						Yes	1. Include as part of the process, stipulations that any testing cannot be of a product that the applicant intends to sell to The City.	In Progress	Transportation and CED, working with Supply	Applications can be reviewed to see if the product being tested is already available to the marketplace. This could be an exclusion criteria.