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To: "Direct to Mayor and Council - DL" <CCDTMACDL@vancouver.ca>

Date: 4/19/2016 4:26:11 PM

Subject: RTS 11363 - Report back regarding implications to the City Automated vehicles

Attachments: [Memo to Mayor and Council - RTS #11363 - Automated Vehicles.pdf](#)

Dear Mayor and Council,

Please see the attached memo from Jerry Dobrovolny, General Manager of Engineering Services, laying out staff's initial response to the request from Council to report back on the implications to the City from automated (driverless) vehicles. A short summary of the memo is as follows:

- Council asked staff to report back on the implications of automated vehicles on the City's transportation, land use, economic and sustainability plans, as well as the steps necessary to update those plans (to maximize benefits and mitigate negative impacts).
- Adopting a pro-active approach will help ensure this new technology is aligned as much as possible with City policies and goals - automated vehicles have the potential to significantly improve motor vehicle safety, increase mobility options, increase adoption of cleaner vehicles and free up space currently used for parking; however, if not planned for properly, the technology could also have negative or disruptive impacts to the City and region, including potentially increasing driving and urban sprawl.
- City staff have started to develop a work program to respond to Council's request, including working with a Greenest City Scholar to assist with research, and forming new partnerships with other agencies and organizations interested in this topic; upon completion of this work, staff propose a report back to Council in Fall 2016.

Best,
Sadhu Johnston
City Manager

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ENGINEERING SERVICES
Jerry Dobrovolny, P.Eng.
City Engineer / General Manager

MEMORANDUM

April 15, 2016

TO: Mayor and Council

CC: Sadhu Johnston, City Manager
Paul Mochrie, Acting Deputy City Manager
Janice MacKenzie, City Clerk
Lynda Graves, Manager, Administration Services, City Manager's Office
Rena Kendall-Craden, Director, Communications
Mike Magee, Chief of Staff, Mayor's Office
Kevin Quinlan, Deputy Chief of Staff, Mayor's Office
Katie Robb, Director, Communications, Mayor's Office
Emma Lee, Director, Community Relations, Mayor's Office
Lon LaClaire, Director of Transportation

FROM: Jerry Dobrovolny, General Manager of Engineering Services

SUBJECT: RTS 11363 - Information Request, Report Back Regarding Implications to the City from Automated Vehicles

Dear Mayor and Council,

At the Standing Committee of Council on Policy and Strategic Priorities on February 24th, 2016, Council approved a Notice of Motion on "Preparing Vancouver for Autonomous and Driverless Cars":

THAT Council direct staff to report back on:

- the implications, both positive and negative, of this technology on the City's transportation, land use, economic and sustainability plans, as well as the steps necessary to update those plans; and
- the views of the City's planning, transportation and technology experts on the best ways to maximize the benefits of this technology for the city and its economy while mitigating potential negative impacts.

The pre-ample to the motion noted that this technology was progressing rapidly, with fully automated vehicles expected to be available as early as 2020, and that the new technology

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poses challenges in areas such as privacy in its collection of data, and opportunities in areas such as safety, efficiency and freeing up large areas of urban land for better use.

As part of a set of “Future of Driving” workshops initiated by TransLink last fall, City staff have begun to examine the implications of this new technology. Based on information reviewed to date, potential benefits of automated vehicles could include:

- significantly reduced vehicle collisions and fatalities (with a related decrease in healthcare costs and insurance rates);
- increased mobility options for those who are currently restricted from driving (young, old and people with disabilities);
- increased space available for walking, cycling, transit and other non-auto orientated uses through:
 - improved utilization of existing road space (vehicles able to travel more closely efficiently); and
 - reduced need for both on-street and off-street parking (if private vehicle ownership decreases and vehicle utilization increases)
- improved efficiency and effectiveness of automated transit, taxis, car-sharing and goods movement fleets;
- decreased emissions through vehicles that are lighter and use electric or bio fuel motors;
- synergies with technologies used for road pricing and improved transportation data; and
- productivity gains from regained driver time.

Potential challenges could include:

- increased auto ownership, driving and urban sprawl;
- decreased use of transit, cycling and walking;
- impacts on proposed major transportation projects not considered;
- current lack of regulations and standards (federal, provincial and local);
- threats to cybersecurity (hacking / terrorism);
- privacy of information collected;
- lack of access to data of public interest;
- lack of public acceptance ;
- reduced employment in industries such as driving, parking and collision repairs;
- insurance and liability implications;
- decreased City and regional revenues (parking, fuel taxes, etc.);
- malfunctions during rare events (extreme weather, utility failures, etc.); and
- managing the transition period when there will be a mix of regular and automated vehicles.


City staff will carry out a work plan to explore these types of issues further as they relate to the City’s transportation, land use, sustainability and economic objectives. Some of the main components of this work will include:

- hiring a City Greenest City Scholar to assist staff with research that would include:
 - a literature review of relevant studies and programs in Canada, the US and Europe;

- an assessment of potentially impacted measures in Transportation 2040, Greenest City and Renewable City plans; and
- suggested City, regional and senior government policy actions to support desired outcomes, and to mitigate potential negative impacts, both during the period of full automation as well as the transition period;
- participating in the process to develop a regional white paper being proposed by TransLink on automated vehicle impacts for the region;
- attending related workshops and conferences;
- monitoring of the federal government's existing research and regulatory work on connected vehicle technology, and proposed work on regulations for testing and operation of automated vehicles;
- doing outreach to local universities and technical associations carrying out related policy, research and development work; and
- requesting input from other City departments likely to be impacted by automated vehicles.

Staff expect that this work could be completed for a report back to Council in Fall 2016.

Please contact Lon LaClaire, Director of Transportation at 604-873-7336 or lon.laclaire@vancouver.ca if you have any questions or require more information.



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