CITY OF BELLEVUE
BELLEVUE TRANSPORTATION COMMISSION
MINUTES

January 23, 2020 Bellevue City Hall
6:30 p.m. City Council Conference Room 1E-113

COMMISSIONERS PRESENT: Chair Wu, Commissioners Bishop, Leitner, Tropin, Marciante, Teh, Ting

COMMISSIONERS ABSENT:

STAFF PRESENT: Kevin McDonald, Franz Loewenherz, Paula Stevens, Andrew Singelakis, Department of Transportation; Jennifer Ewing, Environmental Stewardship; Steve Marshall, Smart Mobility

OTHERS PRESENT: None

RECORDING SECRETARY: Gerry Lindsay

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at 6:30 p.m. by Chair Wu who presided.

Upon the call of the roll, all Commissioners were present with the exception of Commissioner Teh, who arrived at 6:31 p.m.

2. APPROVAL OF AGENDA

A motion to approve the agenda was made by Commissioner Tropin. The motion was seconded by Commissioner Leitner and the motion carried unanimously.

3. ORAL AND WRITTEN COMMUNICATIONS – None

4. COMMUNICATIONS FROM CITY COUNCIL, COMMUNITY COUNCIL, BOARDS AND COMMISSIONS, AND MEMBERS OF THE TRANSPORTATION COMMISSION

Councilmember Roberston informed the Commissioners that she recently had been appointed to serve as Council liaison to the Commission. She said she has served for the past ten years on the City Council and prior to that served eight years on the Planning Commission. She said she served as part of the light rail leadership group that negotiated light rail and helped to write the overlay code; has for the last four years served as a member of the Transportation Policy Board of the Puget Sound Regional Council; and recently was appointed to the King County Regional Transit Committee.

Commissioner Leitner noted the Commission intends to communicate with the Council on a more regular basis. Commissioner Ting said of particular interest to him is finding ways the Commission can work more efficiently with the Council and with the public.

Commissioner Bishop said the Commissioners had on several occasions talked about the importance of interacting with the Planning Commission and noted that the two commissions have yet to meet together. The work of the two commissions is interrelated and there should be interaction. Councilmember Robertson said it has in the past been beneficial for commissions to meet together. She said she supported having the boards and commissions meet jointly ahead of the next major Comprehensive Plan update.

Chair Wu invited the Commissioners to share comments on various issues.

Commissioner Tropin shared some slides on the issue of pedestrian and bicycle safety relative to Vision Zero. The first example outlined options for local street access that are used in Europe, including raised crosswalks in use in Amsterdam that force cars to slow down and notice pedestrians and bicyclists. A slide of a narrow street both physically and visually was shown which also slows down cars. He noted that the posted speed limit of 30 kph (18 mph) is quite slow, and said it is only 15 kph (9 mph) in school zones. Similar designs are used in Barcelona and Helsinki. A slide of an intersection in New York City showed a curve radius of ten feet that is significantly smaller than what is used in Bellevue, which is 25 to 30 feet. The smaller radius forces cars to slow and turn at slower speeds. New York has also installed a lot of safety islands for pedestrians, particularly on major streets and intersections. Road markings are used in London to make lanes appear visually narrower.

With regard to the frequency of crosswalks, Commissioner Tropin said trying to cross large avenues in Manhattan is made easier by having crosswalks every 50 to 100 feet. Pedestrians can risk jaywalking or they can decide to simply walk to the nearest crosswalk. The frequency of crosswalks means very few choose to jaywalk. On smaller streets where there are fewer crosswalks, jaywalking is much more common, though it is safer given fewer vehicles. The situation is similar in Europe, with narrow or visually narrow streets, making it safer for pedestrians to cross even without a crosswalk.

Commissioner Ting asked if any of the cities have ideas on how autonomous vehicles will begin to impact the effectiveness of safety, either positively or negatively. Commissioner Tropin said he has not researched that.

Chair Wu noted that during the Wilburton study there was a lot of talk about creating alleyways along which people can safely walk and access shops and restaurants.

Commissioner Bishop said a basic traffic engineering rule is that pedestrian collisions tend to be concentrated in crosswalks. That is, of course, where the pedestrians are. The problem is that people think a painted line will stop a car, and they therefore stop looking for themselves. The opposite is true as well, namely that jaywalkers know to look out for cars and therefore suffer fewer collisions. A proliferation of marked crosswalks becomes a technical issue that is talked about a lot in the traffic engineering industry.

Commissioner Teh pointed out that older cities tend to have less space and therefore their streets are forced to remain relatively narrow. He suggested, however, that creating narrow streets in order to facilitate safety is a great idea. Commissioner Tropin agreed that old cities have narrower streets. Some cities, including New York and Helsinki, have enough room for three lanes of cars in addition to parking on both sides. Those cities both create narrow crosswalks where only one lane of traffic is moving.

Commissioner Ting asked if the net effect of having raised crosswalks is positive or negative in

terms of accident prevention. He allowed that they certainly calm traffic and have the effect of slowing down cars, but they might also make it appear to pedestrians that the walkway is more protected than it really is. Commissioner Bishop said he wrote a paper about 30 years ago on pedestrians transitioning from a protected space to a vehicle space without a curb. A curb provides a signal to pedestrians that they are changing their environment. There was an example near the Seattle Art Museum where the city ultimately put up bollards to improve safety for pedestrians.

5. STAFF REPORTS

The Commissioners took a moment to take photos for Vision Zero.

6. PUBLIC HEARING – None

7. STUDY SESSION

A. Environmental Stewardship Initiative (ESI) Strategic Plan Update

Environmental Stewardship Program Manager Jennifer Ewing said mobility and land use are key components of the city's sustainability efforts. She said her role included meeting with various of the city's boards and commissions to share and discuss information. The Environmental Stewardship Initiative was launched in 2007 with a focus on how to reduce greenhouse gases emissions in terms of city operations and the entire community. Over the years the focus has changed, but it has remained a One City initiative coordinated by a program manager working closely with the staff from the different departments in implementing the 57 actions in the current environmental stewardship plan.

Ms. Ewing said the work to update the plan was launched about a year ago, beginning with a review of the progress made to date. There were a few different touch points with the Council in 2019 to provide an outline for the plan update process and to talk about big picture environmental goals and best practices. The recommended role for the boards and commissions is to provide input into the plan and possible plan actions.

The process for updating the plan will not entail starting from scratch. To date the goals and targets have been reviewed and in some cases updated. The current focus is on assessing the strategies and actions ahead of developing a draft updated plan. In addition to meeting with boards and commissions, there will be public outreach.

Ms. Ewing shared with the Commissioners a chart outlining the focus areas of the plan in the categories of materials management and waste, mobility and land use, energy, natural systems, and climate change. She noted the update was focused on a 2050 time horizon and the chart included the goals and targets for each of the categories, most of which are comparable to peer cities, King County and national best practices. She highlighted the goal to strive for 100 percent renewable energy, a 40 percent tree canopy cover, reduced drive-alone rates, increased electric vehicle ownership, reducing the per capita vehicle miles traveled, and concentrating jobs and housing near frequent transit.

The Commissioners were informed that when the goals and targets were presented to the Council, the caveat was given that there will continue to be a focus given to the actions and strategies and how to achieve the goals, leaving room to adjust things if needed. Some

Councilmembers indicated an interest in potentially increasing and making more aggressive some of the goals.

Commissioner Leitner asked where the mobility and land use and the natural systems components fit into the city's growth corridors strategy. Ms. Ewing said the goals focus on access to parks and transit. With regard to parks, the recommendation is to have 100 percent of all residents living within a third of a mile, or ten-minute walk, from a park. That distance is based on national best practices from the Trust for Public Land. The transit access goal is focused on directing growth toward growth centers that are served by frequent transit.

Commissioner Bishop said he assumed the goal of reducing vehicle miles traveled by 50 percent comes from the state law that was enacted a few years ago. He said the law has no basis behind it and there has never been a reduction in that metric. He also suggested that reducing vehicle miles traveled is not something the people of Bellevue want. Mobility is absolutely basic to quality of life and for the city have a goal to cut that quality of life in half seems out of sync with how Bellevue residents live their lives.

Commissioner Marciante commented that vehicle miles traveled is in large part a measure of how long people are in their cars getting from one place to another. She said she does not equate travel times with quality of life and prefers to reduce travel times as much as possible. Walking to and from destinations actually improves quality of life by making the journey more enjoyable. With regard to sustainability, vehicle miles traveled is directly tied to greenhouse gases emissions. Traveling more miles produces more greenhouse gases emissions, which in turn is directly tied to climate change. She agreed that reducing vehicle miles traveled by 50 percent is a significant goal that will require a lot of innovation. She asked if the vehicle miles traveled reduction goal applies to the delivery of goods and services as well. Ms. Ewing said attention is being given how the state law defines vehicle miles traveled. The law does exempt vehicles over 10,000 pounds, though the city is not mandated to adhere to the way the state looks at it so the city could include a vehicle miles traveled reduction for trucks. Buses are excluded under state law and it would make no sense to include them.

Chair Wu asked staff to bring to the next discussion examples of how a 50 percent reduction in vehicle miles traveled might play out.

Commissioner Tropin noted that the buses he takes to get around always seem to have room for additional riders, even during rush hour. That would seem to argue that they are too big for the job and he asked if there are any goals around improving efficiency in that respect. Ms. Ewing said that has not been looked at. The county may be addressing it through their mobility plans. Mr. McDonald pointed out that there is a fleet electrification target.

Commissioner Bishop said that has been an issue for transit agencies forever. The fact is transit agencies serve different markets at different times of the day making it necessary for them to spend capital dollars on vehicles that sit idle at certain times of the day. There is a tradeoff between the cost of buses and the cost of driving around at times in buses that are not full.

With regard to the goal around electric vehicle ownership, Commissioner Tropin pointed out that electric vehicles are gaining in how far they can travel, which means they have large batteries that require lots of emissions to produce. There are also power-hungry electric sports cars. There are studies that show electric vehicles are worse on the environment when considering all factors from production to charging them from the grid. Ms. Ewing allowed that the goal could be enlarged to include plug-in hybrids. As the market evolves, there will

continue to be a mix of both.

Commissioner Marciante said there are a lot of myths and misinformation about electric vehicles. The fact is the only time electric vehicles in the United States might not be more efficient is where the electricity to power them is being generated from burning coal. Diesel vehicles are called out as being efficient, but most vehicles operating in the country are running on gasoline. The focus of the industry is on making the internal combustion engine more efficient than electric vehicles. Electric vehicles will become cleaner over time as electricity gets cleaner. The legislature has already passed 100 percent clean energy goals and the top way to significantly reduce climate change impacts is by buying electric vehicles. Electric vehicle batteries do impact the environment but they last significantly longer than the lifetime of the vehicle.

Commissioner Tropin asked how the goal of 100 percent renewable energy is to be met. Ms. Ewing said the state passed legislation in 2019 that requires utilities to transition to 100 percent renewable energy. Puget Sound Energy already had plans to retire its coal-fired plants and over time they will also have to transition off of natural gas.

Commissioner Ting suggested that if achieving the goal of reducing the vehicle miles traveled would require taking away people's cars, there would be an uproar. In choosing quality of life, people have the option of how to get around, including the choice of not driving at all. He asked how Amazon deliveries and transportation mobility corporations such as Uber impact the amount of carbon that goes into the air, and how someone driving an electric vehicle impacts the vehicle miles traveled reduction goal. Ms. Ewing said Washington state enjoys relatively clean electricity and it will only be getting cleaner, so driving an electric vehicle will lower greenhouse gases emissions. However, even electric vehicles effectively contribute to congestion by virtue of their presence on the road, so in order to achieve the greenhouse gases emissions reduction goals, both vehicles and fuels must get cleaner, and there must be a reduction in the number of vehicle miles traveled through providing support for mobility alternatives and public transit.

Answering a question asked by Commissioner Bishop, Ms. Ewing pointed out that under the state rules hydro electricity counts as being renewable but nuclear energy does not. Commissioner Marciante pointed out that while hydroelectricity is clean energy, dams do impact the natural environment and as such new hydroelectric power would not be considered environmentally friendly.

Ms. Ewing said the Comprehensive Plan already includes targets relative to reducing the drive-alone rate. The 2035 goal is to reduce drive-alone commute trips to 50 percent for city residents and 60 percent for city workers. The plan is to extend those targets out to 2050 and to have the same goal for both residents and workers. With regard to electric vehicle ownership, roughly three percent of vehicles owned in Bellevue are electric vehicle or plug-in electric. The goal is to reach 50 percent by 2050. Bellevue has a highly educated population, many of whom work in the technology sector and are therefore more likely to buy electric vehicles. It is recognized that there will always be people who will want or need to drive in the city and ideally those trips will be as environmentally clean as possible.

The vehicle miles traveled reduction goal is a per capita goal. While the city's total vehicle miles traveled has stayed the same or risen slightly as the population and jobs have continued to grow. On a per capita basis, VMT did go down by about three percent between 2011 and 2018. The proposed goal is in line with the state's goal, and King County is looking to

establish a similar goal as part of the King County City's Climate Collaboration.

The goal to increase housing in proximity to frequent transit is a focus of the Transit Master Plan. It addresses the percent to of people who could potentially be served by transit within short distance of their homes, and for the environmental plan the focus will be on a quarter-mile radius. On the frequent transit network, buses run every 15 minutes. Since 2012 there has been a significant increase in the percent of jobs near frequent transit due largely to the job growth that occurred during the period, particularly in the downtown. There has not been a significant increase in households. As population growth continues to occur in the growth centers, there will be an increase in the number of households within a quarter mile of frequent transit.

Commissioner Bishop noted that the Commission had spent three years working on the Transit Master Plan, which included a deep dive into the Frequent Transit Network. He pointed out that the frequent transit system as presented in the Transit Master Plan assumes an aggressive growth in transit revenues, which has not occurred. He asked if the part of the environmental plan will include having the city aggressively ask for more transit funding. Ms. Ewing said that will be a factor. Commissioner Bishop added that the East King County cities receive only fifty cents of transit service for every dollar of taxes they put into the transit system. One approach would be to push the transit agencies to supply the service levels the East King County cities are actually paying for.

Commissioner Leitner said she lives near the Eastgate park and ride and sees a lot of empty buses coming and going. In moving beyond being aspirational and seeking to actually achieve the goals, smaller fleet vehicles should come into the mix, especially on some of the routes.

Commissioner Marciante said the climate crisis calls for putting the city on an entirely different economic trajectory. When talking about sustainability, it is important to imagine a zero-emission future, but it is also important to recognize there should be no reliance on anything close to the progress that has been made in the past. Solutions will have to include much more drastic changes. The task of looking at environmental sustainability is a perfect opportunity to be reminded that drastic changes must be made in the next 12 years in order to be positioned in a completely different trajectory relative to greenhouse gases emissions from all sectors. Transportation is actually the low-hanging fruit. The strategies of increasing the number of electric vehicles and reducing the vehicle miles traveled are the two factors that will have the biggest impact on reducing greenhouse gases emissions.

Chair Wu agreed that the status quo will not achieve the goals. She urged staff to bring to the next meeting concrete steps for getting to the desired end results along with the costs.

Commissioner Tropin pointed out that if he elects to travel by Uber or Lyft, doing so as the only passenger should be considered the same as driving alone. He asked how the metrics for the proposed plan calculate those trips. Ms. Ewing said the commute trip data the city uses comes from the American Community Survey, and the vehicle miles traveled data comes from the Puget Sound Regional Council. None of that data can distinguish between a Uber/Lyft trip and a trip by a regular car.

Commissioner Bishop stated that changing the propulsion of automobiles is the only way the desired reduction in emissions will be achieved. The only way to get to the goals will be through allowing the market to drive the outcome, particularly in regard to the sale of cars. He asked if city policy includes anything that advances the market thinking of how people buy

their cars, particularly market-based incentives toward electric vehicles. Ms. Ewing said there are not many if any cities looking to mandate the purchase of electric vehicles. Moving to increase the number of electric vehicles on the roads will need to involve voluntary actions, though it could also include education, outreach and incentives. Cities are moving to install electric vehicle charging stations, which Bellevue has done. There have also been investments made by the private sector in electric vehicle charging stations.

Ms. Ewing noted that in the first phase of the plan update an outreach and engagement process was launched to gain input from residents and the business community. The focus was primarily on how ambitious the city should be. An online survey generated close to 400 responses, and an open house was held to talk to residents. It was heard clearly that climate change is important to residents and something they take personally. About three-quarters of those who responded said they want to see Bellevue be very ambitious in drafting the plan update. The top environmental concerns voiced were tree loss and preservation; the climate; parks/green spaces; water/storm water; and mobility options. The respondents indicated a desire to see Bellevue play a leadership role, but they also highlighted costs and benefits of the different approaches in the focus areas. Moving forward with analyzing strategies, there will also be another round of outreach and engagement with more of a focus on specific best practices from around the country. A draft plan will then be developed and presented to the boards and commissions for review and the Council.

Chair Wu asked the Commissioners to jot down their thoughts relative to two questions and come ready to discuss them the next time the topic is on the agenda: 1) Are there any strategies or actions that the Transportation Commission would like to suggest for consideration in the benefit cost analysis and public outreach? 2) What does the Transportation Commission consider to be the greatest areas of opportunity for supporting mobility options to help reduce per capita vehicle miles travelled?

Commissioner Marciante commented that there are in fact a lot of tradeoffs involved. Even where the public voices support for climate change actions, they do not always understand the underlying tradeoffs involved. She suggested all future public engagement should include certain exercises that include reviewing options along with their tradeoffs. Ms. Ewing said staff was giving consideration to how the outreach efforts should be structured.

Chair Wu said any Commissioners wanting to attend an outreach activity should let staff know.

Commissioner Teh said he was somewhat disappointed with the goal and objective for electric vehicles. He said he would like to see something more tangible and enforceable and not just outreach and education. He said he wanted the end result to be tangible actions, not just unenforceable policies.

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B. Bellevue's Smart Mobility Plan: Advanced Transportation Technology Initiatives

Steve Marshall, Transportation Technology Partnership Manager, stated that the Smart Mobility Plan was last presented to the Commission on October 23, 2018. He allowed that much has happened since. In March 2019 Amazon made an announcement that it was going to come to Bellevue in force with an estimated 25,000 employees. Seattle has 45,000 Amazon employees, but those jobs have led to the creation of 55,000 other jobs. Some estimates have

placed the number of Amazon workers coming to Bellevue as high as 75,000, a number that would also generate a number of other jobs, creating a very real challenge in terms of getting people in and out of the city. Toward the end of 2019 more articles appeared in local publications about Amazon workers coming to Bellevue. At the same time, a lot of new developments in technologies have come forward, many of which address transportation in ways that can help to solve the problems.

Mr. Marshall recommended a book from the University of California-Davis called *The Three Revolutions*. He said the book is about automated and shared electric vehicles. The approach outlined has the acronym ACES: autonomous, connected, electric, shared. The technologies will reduce the cost of transportation dramatically, according to the book. It is noted in the book that currently the cost of operating a bus is about $1.50/mile/passenger. Moving to ACES vehicles, cost can be reduced to between ten and twenty cents/mile/passenger. That cost-benefit analysis will go far in making the new technologies easier to sell to the public.

Mr. Marshall said he has owned and driven an electric vehicle for six years, during which time he has traveled 80,000 miles. He said that calculates out to 80,000 pounds of carbon, which equates to 23 metric tons, which is more than seven elephants worth of carbon. In Washington state where there is a lot of hydropower and other renewable sources of energy, the state enjoys one of the cleanest and the least expensive grid in the country.

The Commissioners were reminded that there are both state and local transportation goals, including Target Zero/Vision Zero, cutting greenhouse gases to 1990 levels by 2020, and Commute Trip Reduction Act goals. There is a bill before the legislature currently to cut greenhouse gases to 45 percent below the 1990 levels by 2030, 75 percent by 2040, and getting to net zero by 2050. Reaching those lofty goals will not be easy. With regard to Target Zero, traffic deaths and serious injuries are up statewide. Greenhouse gases emissions have also increased, and even with Commute Trip Reduction, there has been a 22 percent increase in urban delays due to congestion.

The goals are good, but there must be a plan to reach them. The plan set forth by Mary Barra, CEO of General Motors, is to achieve a world with zero crashes, zero emissions and zero congestion, and her plan for getting them will be driven by the convergence of electrification, autonomous vehicles and shared mobility services. General Motors and indeed automakers around the world are spending billions of dollars trying to get to that goal.

Bellevue's plan in 2018 was to make Bellevue a nationally recognized leader in advanced transportation technologies; to improve safety in support of Vision Zero; to improve the efficiency of the roadway network and support regional mobility; to enhance sustainability by reducing vehicle emissions; and to pursue private and public sector partnerships in advancing Bellevue's Smart Mobility strategy.

Mr. Marshall said in 2018 he was invited to address the International Smart Shared Mobility Congress in Guangzhou, China. He said it was eye-opening to see how focused the Chinese are on making things happen. In Zhencheng, a province close to Guangzhou, all 16,000 of their buses are electric.

Mr. Marshall said the presentation he gave recently to the city's leadership team focused on vehicle technology. Brian Mistele, the CEO of Inrix, made a presentation about how different companies are starting to come into each of the ACES categories. He stressed the benefit of ACES as being reduced congestion, increased safety, lower transportation costs and increased

convenience. The approach is also more environmentally friendly, opens cities up, and increases accessibility. Used electric vehicles are now available on the market for very reasonable prices, and their maintenance costs are very low compared to other cars. The legislature has reinstated the incentives for purchasing electric vehicles that includes a reduced sales tax rate, and has extended that to include used vehicles.

Several major trends are making electric vehicles more affordable, key among them is cheaper batteries. Prices have dropped from a thousand dollars per kilowatt hour to only $123 in 2017. To a large degree, the number of batteries in a car dictates how far the car can go on a single charge; the Nissan Leaf has only a few batteries and goes 90 miles, while the Tesla has a lot of batteries and goes 400 miles.

Commissioner Marciante commented that electric flying taxis are rapidly becoming a viable business model because of the lower cost of batteries. Mr. Marshall said urban air mobility is not as far out as it used to be. In Guangzhou and in Singapore they have urban air taxies operating that are electric and autonomous.

Mr. Marshall said less expensive sensors is another trend in favor of electric vehicles. The cost of computing power also continues to go down while increasing in capacity, and major automakers and tech companies are in full competitive mode, spending billions of dollars on what they see as a viable market. Tesla has invented a chip that can take all the data from all the onboard sensors on a self-driving car and in fractions of a millisecond make all the computations needed. A number of countries, including Norway, are looking to ban fossil fuel vehicles by 2030. The Netherlands wants fossil fuels gone by 2025. The European Union established carbon limits of nine grams per kilometer that took effect in January 2020; not meeting the limit results in a fine for every gram exceeding the limit. Germany passed a resolution to ban the internal combustion engine by 2030. Some countries ban internal combustion engines from large cities. China's policy is to be the world leader in electric vehicles. Volkswagen, Audi and other carmakers are shutting down research on internal combustion engines in favor of electric vehicles.

There are five levels of autonomous vehicles, ranging from no automation to driver assistance, partial automation, conditional automation, high automation and full automation. Under high automation are self-driving vehicles that operate on geo-fixed routes. In the next few years that is the level of automation that will get the most attention. Full automation will likely take another 15 to 20 years to achieve. Vehicles with automatic braking and lane change prevention exist under Level 2, partial automation.

Mr. Marshall said the Department of Energy's Executive Advisory Board to the Smart Mobility Program is working with national labs on vehicles that will benefit cities like Bellevue by putting more people into fewer vehicles. Those vehicles will operate more safely and have fewer emissions. Bellevue welcomed he first three Protera buses in the state and Bellevue continues to work toward being the first city in the state and indeed the country to have all electric buses. The King County Council wants to move up the deadline for having all electric Metro buses and Bellevue is working with them on how to make sure they stay charged. The Eastgate park and ride already has a system in place that allows for recharging buses in only five minutes, and with more batteries on board, the range of the buses has been extended. Given the greatly reduced cost of batteries and advances in infrastructure technologies, it may be time to establish a pilot program for operating autonomous vehicles moving people around in the downtown area, possibly from the transit center to certain offices. Later on attention can be given to freight delivery options using vehicles that do no pollute and

operate cheaply. Amazon has invested in a company that makes electric pickup trucks and they have already ordered 100,000 of the vehicles to be used in making deliveries.

One of the biggest targets for doing the most good sooner rather than later is reducing congestion during peak commute periods. The way to do that is to get more people that have daily commutes to fixed locations into smaller vehicles that operate more frequently. In 2018 the city applied for a ATC/MTV grant to develop employer partnerships focused on commute solutions for Bellevue and Kirkland employees. The grant was not received, however. Smartphone applications by Amazon and others are already in place for enabling employee reservations and determining pick-up and drop-off locations. Not yet in place are the vehicles that can perform the desired functions. While all of that was being done, the state was preparing for autonomous vehicles by setting up work groups to establish the necessary legal structures. The Autonomous Vehicle Work Group is working to collect collision data and a series of other issues.

King County already has electric vanpool vehicles in operation and the city is seeking to work with King County Metro on an advanced vanpool program instead of a city commute pool program. Instead of having four people drive four separate vehicles to Amazon or Microsoft they could ride in a single electric van. There are in Bellevue several large companies that are technology oriented. The goal is for the city to act as a convener for putting together a plan, receive a federal grant, and work with national labs on evaluation of the system.

Commissioner Bishop asked if consideration had been given to having Bellevue operate the vanpool program. Mr. Marshall said the program is and should be operated by Metro. Microsoft and T-Mobile already operate their own shuttle programs. Commissioner Bishop suggested the vanpool program should really be run by the state. Mr. Marshall said consideration was given to that approach but the idea was rejected. Commissioner Bishop argued that vanpools for long trips that cross jurisdictional lines could seriously reduce vehicle miles traveled, and it is the state that has the biggest investment in infrastructure for long trips. Mr. Marshall said one idea just starting to be explored is the creation of a mobility innovation center on the Eastside. The concept would be to involve the concentration of high-tech companies located in Bellevue, Redmond and Kirkland. GM has chosen to locate its Cruze offices in the Eastgate area and it would be good to conduct some pilot projects with them and the companies that want to get their workers to and from their offices faster and more conveniently, giving employees less incentive to drive alone.

Mr. Marshall said the city is continuing to focus on educating the public. A drive electric week event is held in Downtown Park and rather than dealerships people who own electric cars are invited to show them and tell others about their experiences.

Mr. Marshall stressed that technology can change very quickly. He pointed out that in fiscal year 2000 the Kodak company had operating revenues of $14 billion, operating earnings of $2.2 billion, and net profits of $1.4 billion. That year their CEO claimed picture taking was at an all-time high worldwide and said it was a great time to be in the picture business. In 2012, Kodak filed for bankruptcy protection. The head of King County Metro has said they do not want to be another Kodak. They know electric vehicles are the future and they want to get ahead of things. Bellevue is working with Metro on improving efficiencies and the affordability of transit, all with an eye on making the option more appealing.

Chair Wu noted one of the recommendations in the Smart Mobility Plan is to implement a flexible on-demand rideshare system and she asked where things stand with that. Mr. Marshall

said that Bellevue was not awarded the grant applied for in 2018, though having been recommended by the technical committee, reapplication will be made. Instead of calling it a commute pool it will be called something like advanced technology vanpools. Vanpools actually are profitable for King County Metro. Riders pay for the service but are reimbursed by their employers. Currently Metro vanpools pick up the same people at the same time every day, drive to the same place and park for the rest of the day, reversing the route as night. A system that would utilize vehicles much more intensively would be economically beneficial. Electric vehicles for a variety of reasons can travel for a million miles instead of 250,000. On the Eastside, not all of the jobs are in downtown Bellevue, they are spread out. That is not the case in Seattle. On the Eastside there is a need to set up bus routes in low-density and rural areas to serve commuters to address the last mile issue.

Commissioner Ting asked what would be the most aspirational pilot project the city could accomplish in the next five years. Mr. Marshall suggested it would be a combination of electric shuttles operating from the transit center and addressing the first mile/last mile issue. Additionally, it would be some variation of electric vanpools that are connected in a way that allows them to operate on demand. If operated on fixed routes, autonomous vehicles could work. He said when elevators first came on the scene, people were reluctant to use them. In time elevators became autonomous and many were reluctant to use them because there was no operator. Now, anyone getting on an elevator that has an operator wonders what is wrong with the elevator. Autonomous vehicles can be thought of as horizontal elevators.

Commissioner Ting asked if any of the initiatives will be integrated with existing city of Bellevue projects in the next five to ten years. Mr. Marshall said the quick answer is yes, though probably not on the Grand Connection. What is in the cards is working to develop a curb management system where autonomous vehicles can drop-off and pick-up safely. The Transportation Research Board met recently and had that issue at the top of its agenda.

Commissioner Bishop said he recently read an article about the potential for having some of the detection systems be land based rather than vehicle based. Cameras or other detectors located every hundred feet along a road would have a very restricted space to look at and would be able to detect differences far simpler than vehicle detectors do. That would seem to have potential, especially in heavily urbanized areas and is something the city might want to invest in to enhance acceleration of the system. Mr. Marshall said most vehicle manufacturers and tech companies are looking to create vehicles that can go anywhere. Within an urban area like Bellevue, there already is in place systems for dedicated short-range communications between vehicles, but the vehicle manufacturers are not installing the receptors yet. A system in which cities pay for monitoring cameras would be very expensive for the local jurisdiction, most of which have difficulties even repairing potholes.

Commissioner Tropin said he was aware of the services offered by Waymo in Phoenix, which are Level 4 geofenced operations. He said they asked him five years ago when he was visiting California if he would be willing to participate in a shared pilot program with Lyft. He asked what could be done to get Waymo to Bellevue sooner so they can learn about the area's environment and terrain. Mr. Marshall said Waymo Kirkland began testing vehicles in 2017. Their goal was to see how the autonomous vehicles did in the rain. That testing work was partly behind the Governor's office putting money to get GM Cruze to come to Eastgate, and it is also behind the notion of developing a Mobility Innovation Center. One argument in favor of the approach is that the local jurisdictions are working on the issues and welcome pilot projects.

Chair Wu referred to the recommendation to collaborate with King County Metro to implement a shared-use mobility hub and asked where that stands. Mr. Marshall said the city has worked with King County Metro on how to turn the Eastgate park and ride into a mobility hub. There were some design concepts drawn up, but Metro has not taken the ideas and run with them for some reason. Metro does have plans to begin charging for parking at the Eastgate park and ride and it could work if they were to dedicate those revenues toward working on a smart mobility hub. By having more high-tech vanpools that operate with improved scheduling, the hub could be created.

Commissioner Marciante commented that autonomous vehicles are a technology that can already be purchased. Tesla makes cars that largely operate as autonomous vehicles. The city needs to think hard about the problems that need to be solved relative to the transportation system. Private companies are looking for business models and revenues. Uber is looking for autonomous vehicles to serve the private sector, but there are a number of companies that view their role as transit shuttle providers, including EZMile, and they want to sell vehicles to organizations that have their own revenue models, including transit agencies. Some cities are in fact considering operating their own shuttles to address the first/last mile issue. Fully autonomous vehicles will not be in full operations anytime soon, and where there continues to be a need for an operator the cost savings are not there. It will be through technological advances that Bellevue will be able to achieve its goals, and it will be in the city's interest to help companies figure things out by facilitating pilot programs. Bellevue already has very smart intersection technologies in place and the city should welcome a pilot project that facilitates communications with autonomous vehicles.

Commissioner Bishop said an important part of that will be to make sure the city avoids creating obstacles to progress. Commissioner Marciante agreed but stressed the need to also provide incentives for companies by easing regulations and requirements.

Mr. Marshall stated that Bellevue happens to be in the right place at the right time and with the right types of companies. The mobility innovation center concept came from Microsoft, Amazon and T-Mobile. The question is how to get it off the ground.

Chair Wu said the Commission would welcome hearing presentations on possible pilot programs and opportunities that will help meet the goals. Mr. Marshall said Bellevue will continue to seek federal grant opportunities to be used to help organize the work and to determine the metrics to use in evaluating pilot projects.

Commissioner Leitner asked what needs to be done to generate excitement within the community. Mr. Marshall said it does not hurt that Bellevue gets a lot of press coverage. People are in fact interested in the concepts, but there is a need to get people out to look at and experience the vehicles. That is the way the electric vehicles market got going. There were very few people with electric cars six years ago, now Washington is third from the top in the nation in terms of electric vehicle ownership, following only New York and California. On a per capita basis, Bellevue is higher than any city in the country outside of San Jose.

Commissioner Teh asked who was awarded the grant Bellevue applied for but did not get. Mr. Marshall said the public story is that Bellevue passed through the technical committee with flying colors and was in fact recommended to receive the grant. The application was then passed to the office of the secretary of transportation, Elaine Chao where a different set of criteria was employed that included geographic diversity and technological diversity. The jurisdictions that received the majority of the grant were in Oregon and California.

A motion to extend the meeting to 9:05 p.m. was made by Commissioner Marciante. The motion was seconded by Commissioner Ting and the motion carried unanimously.

8. APPROVAL OF MINUTES – None

9. UNFINISHED BUSINESS – None

10. NEW BUSINESS – None

11. ORAL AND WRITTEN COMMUNICATIONS – None

12. REVIEW OF COMMISSION CALENDAR

A. Upcoming Agenda Items

Mr. McDonald briefly reviewed with the Commission the list of upcoming agenda items and meeting dates.

13. ADJOURNMENT

A motion to adjourn was made by Commissioner Marciante. The motion was seconded by Commissioner Bishop and the motion carried unanimously.

Chair Wu adjourned the meeting at 9:01 p.m.

_____ _____

Secretary to the Transportation Commission Date

_____ _____

Chairperson of the Transportation Commission Date