Minutes INTERCITY TRANSIT AUTHORITY Regular Meeting Held Remotely November 3, 2021

CALL TO ORDER

Chair Cox called the November 3, 2021, meeting of the Intercity Transit Authority to order at 5:30 p.m. This meeting was held remotely in accordance with Governor Inslee's Proclamation 20-28.15 Safe Start/Roadmap to Recovery.

Members Present: Chair and City of Lacey Councilmember Carolyn Cox; Vice Chair and City of Olympia Councilmember Clark Gilman; City of Tumwater Councilmember Debbie Sullivan; Thurston County Commissioner Carolina Mejia; City of Yelm Councilmember Molly Carmody; Citizen Representative Don Melnick; Citizen Representative Sue Pierce; Citizen Representative Justin Belk; and Labor Representative Paul Tischer.

Members Absent: Labor Representative David Sharwark.

Staff Present: Ann Freeman-Manzanares; Jason Aguero; Emily Bergkamp; Sara Bradley; Suzanne Coit; Jessica Gould; Steve Krueger; Amy Meierhoff; Ally McPherson; Pat Messmer; Eric Phillips; Heather Stafford; Hannah Toulme; Nicky Upson; Daniel Van Horn; Jonathon Yee.

Others Present: Legal Counsel, Jeff Myers; Jihan Grettenberger, Community Advisory Committee.

APPROVAL OF AGENDA

It was M/S/A by Citizen Representatives Melnick and Pierce to adopt the agenda.

PUBLIC COMMENT: No public comments were received.

PUBLIC HEARINGS

A. Draft 2022-2027 Strategic Plan. Freeman-Manzanares presented the 2022-2027 Draft Strategic Plan for a public hearing. Freeman-Manzanares said two written public comments were received (attached) and those were forwarded to the Authority prior to the meeting.

The Authority reviewed the elements of the strategic plan in the spring to provide direction in creating the 2022 budget proposal. The plan has the elements which allow IT to focus on the implementation of the approval of the long-range plan, as well as IT 's Proposition 1. The Authority directed two changes to the document before release as follows:

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- Goal 5 the Authority directed staff to include supporting the Thurston County Regional Climate Mitigation Plan. Goal 5 now reads: "Integrate sustainability into all agency decisions and operations to lower social and environmental impacts to enhance our community and support the Thurston County Regional Climate Mitigation Plan."
- Goal 7 The Authority directed staff to add the phrase, "such as access and equity as a service provider, and as an employer." Goal 7 now reads: "Build partnerships to identify and implement innovative solutions that address mobility needs and other critical challenges in the community, such as access and equity as a service provider and as an employer."

Chair Cox opened the public hearing at 5:34 p.m. Clerk of the Board confirmed there was no one from the public wishing to make public comment.

With no one from the public giving comment, Chair Cox closed the public hearing at 5:34 p.m.

B. Draft 2022 Budget. Finance Manager, Suzanne Coit, presented the draft 2022 Budget for a public hearing. No written comments were received for the draft budget.

Chair Cox opened the public hearing at 5:35 p.m. Clerk of the Board confirmed there was no one from the public wishing to make public comment.

With no one from the public giving comment, Chair Cox closed the public hearing at 5:35 p.m.

INTRODUCTIONS

A. Sara Bradley introduced Hannah Toulme, HR Specialist.

APPROVAL OF CONSENT AGENDA ITEMS

It was M/S/A by Councilmembers Carmody and Sullivan to approve the consent agenda.

- A. Approval of Minutes: October 6, 2021, and October 20, 2021, Regular Meetings
- **B. Payroll for October:** \$4,332,698.35
- C. Accounts Payable October: Warrant numbers 33148-33179 dated October 5 in the amount of \$131,581.32; numbers 33180-33181 dated October 11 in the amount of \$75,054.49; numbers 33182-33230 dated October 13 in the amount of \$2,531,612.79; numbers 33233-33274 dated October 19 in the amount of \$217,026.99; numbers 33275-33280 dated October 22 in the amount of \$17,271.27; numbers 33281-33311dated October 27 in the amount of \$393,670.46; for a total

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amount of **\$3,366,217.42**; and Automated Clearing House Transfers in the amount of **\$6,517.09** for a monthly total of **\$3,372,734.51**.

NEW BUSINESS - NONE

COMMITTEE REPORTS - NONE

GENERAL MANAGER'S REPORT

- Freeman-Manzanares reported the CAD/AVL project is moving right along. Staff is implementing the pilot phase on the test fleet, which is a test group of four vehicles, which officially starts on November 11. There are about 20 operators trained to use those vehicles and report in. Coach installation is planned to begin November 29 and be completed by the end of the year. Dial-A-Lift is tentatively planned for testing and installation in February 2022. IT is losing the communication system through T-COMM in March 2022, so there are a lot of reasons to move through this as quickly as possible. The contractor, Avail, is doing a fantastic job making sure we can meet our goals. Staff have dedicated a lot of time to this project making sure that everything flows smoothly. Freeman-Manzanares gave a big shout out to staff for making it happen.
- Staff participated in an intake meeting with the City of Olympia for the final land use permit for the next phase of the Patterson Street project. That process is anticipated to take approximately four to six months to complete.
- The bus stop improvement construction project will be suspended at the end of this week due to the weather. The contractor hopes to start it back up about mid-February. A little less than half of the 47 sites the Authority approved have been completed. The Marketing and Communications staff, Operations Supervisors, and surely our customers are ready for a break because that's a lot of activity at the bus stops.
- Staff is making great progress with the downtown Olympia Transit Center final site updates even in the midst of the work being facilitated by the City of Olympia downtown. The Smart Corridor consultant has been interviewing our partner jurisdictions, so the work is underway on that project.
- Eric Phillips gives a big shout out to WSDOT Olympic Region and headquarters staff who have been supporting the work to get approvals in place for the Martin Way Park-and-Ride direct access project.
- Previously, Freeman-Manzanares reported a break-in and theft at the Walk N Roll Facility downtown Olympia and a break-in at the Centennial Station. This week, she is reporting a theft of a transport vehicle from the gated construction site on Pattison

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Street. Issues continue with individuals repeatedly cutting through or going over the fence to get onsite. We've installed lighting sensors, cameras, and have security staff onsite, and we're looking to add more security at our headquarters and construction sites. Besides all of that, the glazing has been delivered and installed, and construction is on schedule and within budget.

• This afternoon, the Authority/CAC ad-hoc panel interviewed 10 candidates for the open CAC positions. Thank you to Justin Belk, Don Melnick and Debbie Sullivan for representing the Authority, and Jihan Grettenberger, Ty Flint and Allison Spector from the CAC. They will make a candidate recommendation to the Authority at the December 1 meeting.

AUTHORITY ISSUES

The Authority congratulated Debbie Sullivan, Clark Gilman and Carolyn Cox on their victory running for public office positions. Sullivan for the Mayor of Tumwater; Gilman for Olympia City Council; and Cox for Lacey City Council.

CLOSED SESSION

Chair Cox announced once the meeting is adjourned, the Authority will convene to a Closed Session pursuant to RCW 42.30.140 (4) (b), to conduct a discussion related to the ATU Lodge 1765. No further action will be taken.

Attending the Closed Session: General Manager Freeman-Manzanares; Administrative Services Director Stafford-Smith; Authority members Cox, Sullivan, Melnick, Gilman, Pierce, Mejia, Belk and Carmody.

ADJOURNMENT

With no further business to come before the Authority, Chair Cox adjourned the meeting at 5:55 p.m.

INTERCITY TRANSIT AUTHORITY

ATTEST Patricia Mesomer

Carolyn Cox

Carolyn Cox, Chair

Pat Messmer Clerk to the Authority

Date Approved: December 1, 2021

Prepared by Pat Messmer, Clerk of the Board/ Executive Assistant, Intercity Transit

TicketID	Ticket	Contact Info	Date
Via email and Customer Comments	I strongly urge Intercity Transit to focus on electrification of the fleet through modern battery electric buses. The continued consideration of hydrogen fuel-cell buses is a distraction that should be put aside. Hydrogen fuel cell buses are failing in the marketplace. There are fewer than 100 hydrogen fuel cell buses operating in the US, and thousands of battery electric buses, and hundreds of thousands of battery electric buses worldwide.	Jim Lazar 1907 Lakehurst Dr. SE Olympia, WA 98501 360-786-1822 Jim Lazar jim@jimlazar.com	11/3/21 @ 11:30 a.m.
	Two issues that IT should be concerned about are the sources of supply for hydrogen, and the reliability of supply for both hydrogen and electricity as transit fuels.		
	Obtaining "Green" hydrogen will be difficult and expensive.		
	Types of Hydrogen		
	Hydrogen comes in several flavors.		
	"Gray" hydrogen is currently about 99% of the market in the US, produce by steam reformation of natural gas; huge amounts of CO2 are released into the atmosphere, making gray hydrogen much worse than diesel fuel from a climate mitigation perspective.		
	"Blue" hydrogen is made the same way, but the carbon is captured and stored; this is very expensive, and the technology is not yet commercially viable.		
	"Green" hydrogen is produced by using electricity from renewable sources (wind, solar, hydro) to separate hydrogen from water. This is the only viable hydrogen option that truly and reliably mitigates carbon emissions. It is currently expensive, expected to get cheaper, but unlikely to ever be competitive with battery electric buses, simply because the process of converting electricity to hydrogen and then back to electricity is only about 25% efficient measured by the electricity received from the utility grid relative to the electricity delivered to the wheels of the bus. Battery electric buses deliver about 80% of the electricity they receive from the utility grid to the wheels of the bus.		

There is one producer of green hydrogen in the Pacific Northwest, Douglas County PUD, and it is a very small facility. Trucking hydrogen 200 miles in a specialized tanker is expensive, and runs the risk of disruption of supply in winter when mountain passes may be snowy. While there may be additional producers in the future, the focus of their effort is on industrial processes that require very high temperatures, not transportation fuel. Betting on hydrogen would be very risky from a supply and cost perspective.		
Assuring Reliability During Power Outages.		
Intercity Transit should be very concerned about reliability of its system during power outages. Here, again, battery electric buses have an advantage over hydrogen fuel cell buses, simply because the electric transmission system is almost flawlessly reliable. Our home power outages are caused almost entirely by distribution grid failures (tree branches falling on lines). The IT electric bus facility would likely need to be connected directly to the high-voltage transmission system, bypassing the distribution grid entirely.		
To assure reliability with a battery electric bus fleet, IT may need to invest in an on-site generator for times when the power grid is down. While it would be used less than 1% of the time (3 days a year would be highly unusual for outages on the transmission system), and therefore would add little to the IT carbon footprint, it would assure that IT could maintain service continuously when the transmission or local connection to the grid is down. The generator could power the IT offices during the day, and power the recharging equipment during non-working hours, thus providing both office staff reliability and vehicle reliability. This is not a huge cost, but should be examined. The existing diesel storage tank could supply such a generator for weeks, not just days, so that part of the investment is not a new cost.		
Power outages are most likely to occur during severe winter weather. This is the same time that the highway system from eastern Washington, where Green hydrogen is being produced, are likely to be closed due to ice and snow. Storing enough hydrogen on-site to assure reliability during an outage of the hydrogen supply network will likely be at least as expensive as a backup generator. Hydrogen is difficult to store – those tiny molecules can find there way out of most holding tanks. Hydrogen is an appropriate fuel for industrial processes where a few days of production disruption are not a crisis. It is not a reliable fuel for transit operation.		
Comments from Karen Messmer on the Intercity Transit Draft 2022 Budget and 2022-2027 Strategic Plan November 3, 2021	Karen Messmer karen@karenmessmer.com	11/3/21 @ 11:30 a.m.
	 200 miles in a specialized tanker is expensive, and runs the risk of disruption of supply in winter when mountain passes may be snowy. While there may be additional producers in the future, the focus of their effort is on industrial processes that require very high temperatures, not transportation fuel. Betting on hydrogen would be very risky from a supply and cost perspective. Assuring Reliability During Power Outages. Intercity Transit should be very concerned about reliability of its system during power outages. Here, again, battery electric buses have an advantage over hydrogen fuel cell buses, simply because the electric transmission system is almost flawlessly reliable. Our home power outages are caused almost entirely by distribution grid failures (tree branches falling on lines). The IT electric bus facility would likely need to be connected directly to the high-voltage transmission system, bypassing the distribution grid entirely. To assure reliability with a battery electric bus fleet, IT may need to invest in an on-site generator for times when the power grid is down. While it would be used less than 1% of the time (3 days a year would be highly unusual for outages on the transmission system), and therefore would add little to the IT carbon footprint, it would assure that IT could maintain service continuously when the transmission or local connection to the grid is down. The generator for weeks, not just days, so that part of the investment is not a new cost. Power outages are most likely to occur during severe winter weather. This is the same time that the highway system from eastern Washington, where Green hydrogen is being produced, are likely to be closed due to ice and snow. Storing enough hydrogen on-site to assure reliability during an outage of the hydrogen supply network will likely be at least as expensive as a backup generator. Hydrogen is difficult to store – those tiny molecules can find there way out of most holding tanks. Hydrogen is an app	200 miles in a specialized tanker is expensive, and runs the risk of disruption of supply in winter when mountain passes may be snowy. While there may be additional producers in the future, the focus of their effort is on industrial processes that require very high temperatures, not transportation fuel. Betting on hydrogen would be very risky from a supply and cost perspective. Assuring Reliability During Power Outages. Intercity Transit should be very concerned about reliability of its system during power outages. Here, again, battery electric buses have an advantage over hydrogen fuel cell buses, simply because the electric transmission system is almost flawlessly reliable. Our home power outages caused almost entirely by distribution grid failures (true branches falling on lines). The II electric bus facility would likely need to be connected directly to the high-voltage transmission system, bypassing the distribution grid outages on the transmission system), and therefore would add little to the IT carbon footprint, it would assure that IT could maintain service continuously when the transmission or local connection to the grid is down. The generator could power the IT offices during the day, and power the recharging equipment during non-working hours, thus providing both office staff reliability and vehicle reliability. This is not a huge cost, but should be examined. The existing diesel storage tank could supply such a generator for weeks, not just days, so that part of the investment is not a new cost. Power outages are most likely to occur during severe winter weather. This is the same time that the highway system from eastern Washington, where Green hydrogen is being produced, are likely to be closed due to ice and snow. Storing enough hydrogen on-site to assure reliability during an outage of the hydrogen supply network will likely be at

While I see strong commitment to sustainability expressed by the strategic plan, the actions and budget need to be more specific regarding emissions reductions. The climate crisis is looming on us and our time to take action is now.	
The budget contains a \$650,000 study to address 'alternative fuels' at the Pattison facility. This implies that Intercity Transit has not yet committed to electrifying the bus fleet. It is time to go beyond alternative analysis and move to making plans for emissions reductions. I assume that hydrogen remains a potential fuel choice. This is a mistake for our climate future. <u>One of the problems with hydrogen is that it requires at least three times as much electricity as battery electric.</u>	
Hydrogen is much less efficient than battery electric buses. The electrolysis process to separate hydrogen from water is about 50% efficient. The fuel cell process to produce electricity from hydrogen is about 50% efficient. This means that only about 25% of the electricity that is used in the process ultimately finds its way to the bus wheels. By contrast, battery electric buses have charging losses, but about 80% of the electricity put into the bus reaches the wheels.	
Electricity is Cheaper Electricity is getting cheaper in real terms, as low-cost wind and solar become increasingly dominant in the wholesale power market. One can contract for a long-term supply of wind or solar electricity for less than \$.05/kWh, which is \$0.60/gallon of diesel equivalent. The delivery costs for that electricity, in our case paid to Puget Sound Energy, add another \$.03 - \$.05/kWh, meaning the delivered electricity costs about \$1.00/gallon equivalent. Because Intercity Transit would likely be charging overnight, when electricity prices are low, the electric distribution grid is lightly loaded, and wind production is high, IT may be able to charge for less than the costs above.	
By contrast, the most optimistic projection of hydrogen costs, assuming huge reductions in both the cost of electrolysis and electricity, is about \$2/kg, or \$2.50/gallon of diesel equivalent. <u>https://www.spglobal.com/platts/en/market-insights/latest-news/coal/033020-green-hydrogen-costs-can-hit-2kg-benchmark-by-2030-bnef</u> <u>Experience with hydrogen is limited while experience with electric is massive because North America and especially because of international use.</u>	

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