

# Jefferson Transit Authority Transit Advisory Group Remote Meeting Minutes

Wednesday, September 1, 2021, 3:30 pm

**TAG Board Members Present:** Debbie Jahnke, Darrell Conder, Anne Metcalfe, John Nowak, Viviann Kuehl, Brenda McMillan, and Scott Walker with Brandon Maxwell, Tim Caldwell absent. A quorum was present.

**Authority Board Member Present:** Jefferson County Commissioner Kate Dean

**Staff Present:** General Manager Tammi Rubert, Finance Manager Sara Crouch, Fixed Route Operations Manager Nicole Gauthier, Mobility Operations Manager Miranda Nash, and Executive Assistant/Clerk of the Board SJ Peck

## CALL TO ORDER/WELCOME

The meeting was called to order at 3:40 pm by Committee Chair Debbie Jahnke.

## PUBLIC COMMENT

There was none.

## TRANSPO GROUP: ELECTRIC VEHICLE STUDY Attachment A

Paul Sharman of Transpo Group presented in the following:

- "Existing Conditions"
- Summary of Electric Bus Technologies
- Route Analysis
- Electric Requirements Analysis
- Total Cost of Ownership
- Greenhouse Gas Estimates
- Summary

Discussion ensued on driver blocks and battery capacity. Data was taken from the 2019 driver blocks. The raw data for estimated kilowatt hours will be taken into consideration while moving forward. However, the driver blocks may be different. If the runs need to shorten to accommodate battery capacity, the number of operators and shifts may increase as well. The industry expectation for battery capacity is approximately a five percent increase per year.

There was discussion on bus replacement, and maintenance costs. Total cost of ownership is assuming a one to one bus replacement from diesel to full electric. The data presented represents the lifecycle bus costs.

A question was asked about bus uniformity across manufacturers. All bus designs are slightly different but all need to pass federal inspection. JTA would prefer to go with Gillig electric buses to keep consistency with the JTA fleet.

There is a strong interest from the Authority Board to head in this direction. It is a long process. An Electric Vehicle Workshop will be scheduled for January 2022.

### **CONSENT AGENDA ITEMS**

#### **Approval of July 7, 2021 Minutes**

***Motion: Brenda McMillan moved to approve the July 7, 2021 Minutes. John Nowak seconded. Vote: The motion carried unanimously, 7-0 by voice vote.***

### **NEW AGENDA ITEMS**

There were none.

### **UNFINISHED BUSINESS**

#### **Long Range Plan Timeline**

Tammi Rubert explained the LRP Timeline. JTA has not received the document yet. Discussion ensued on transit's role in Greenhouse Gas (GHG) Emission Reduction.

The timeline will be posted on the [JTA website](#).

#### **Route Studies Discussion- Attachment B**

Scott Walker explained the idea of a point to point schedule. This is designed to be a rider friendly schedule for riders that do not have easy access to the internet.

There was discussion of the routes to be included in the schedules. The explained example is intended to include Port Hadlock to Port Townsend and back.

Google Transit does provide this information. A paper option can be beneficial for certain locations. A survey could be useful to figure out specific routes in need of further detail. High use routes could be helpful for specific route maps.

JTA can make a map for the Haines Place/Curtis Street/Port Hadlock route and post them at the major bus shelters. A downloadable version can be added to the JTA website. Feedback will be encouraged. JTA may look at other routes if the map is successful.

Riders can also call customer service for help with trip information.

## NEW BUSINESS

### Kingston Service Update

JTA postponed the Kingston Service until February 2022. JTA wants this route to be successful and will wait until staffing levels stabilize.

A press release will go out to announcing the postponement of the Kingston Route.

### Tabling for Transit/Survey Topics

Tabled for the next meeting

## RIDERSHIP REPORT Attachment C

Nicole Gauthier reported on the following ridership items:

- Fixed Route Daily Ridership Averages
- JTOC Daily Ridership Averages
- Dial-A-Ride Daily Ridership Averages

Discussion ensued about ridership at other transit agencies. It is difficult to compare because some agencies are not at full service and others are going back to reduced service.

Some transit agencies are losing drivers due to COVID and are requiring vaccinations for employees.

## PUBLIC COMMENT

There was none.

John Nowak thanked Miranda for her help with the Community Health Improvement Program (CHIP).

Kate Dean announced John Nowak's retirement from Jefferson Healthcare.

### Adjournment

The meeting was adjourned at 5:08 pm. The next regular meeting will be held on November 3, 2021 at 3:30 pm.

  
\_\_\_\_\_  
SJ Peck, Clerk of the Board

2.25.22  
\_\_\_\_\_  
Date



08/17/2021 JTA BOARD PRESENTATION



## PRESENTATION OUTLINE

### 1. Review Previous Information (October 2020)

- A. "Existing Conditions"
- B. Summary of Existing Electric Bus Technologies
- C. Route Analysis

### 2. New Information

- A. Electric Requirements Analysis
- B. Total Cost of Ownership
- C. Greenhouse Gas Estimates
- D. Summary





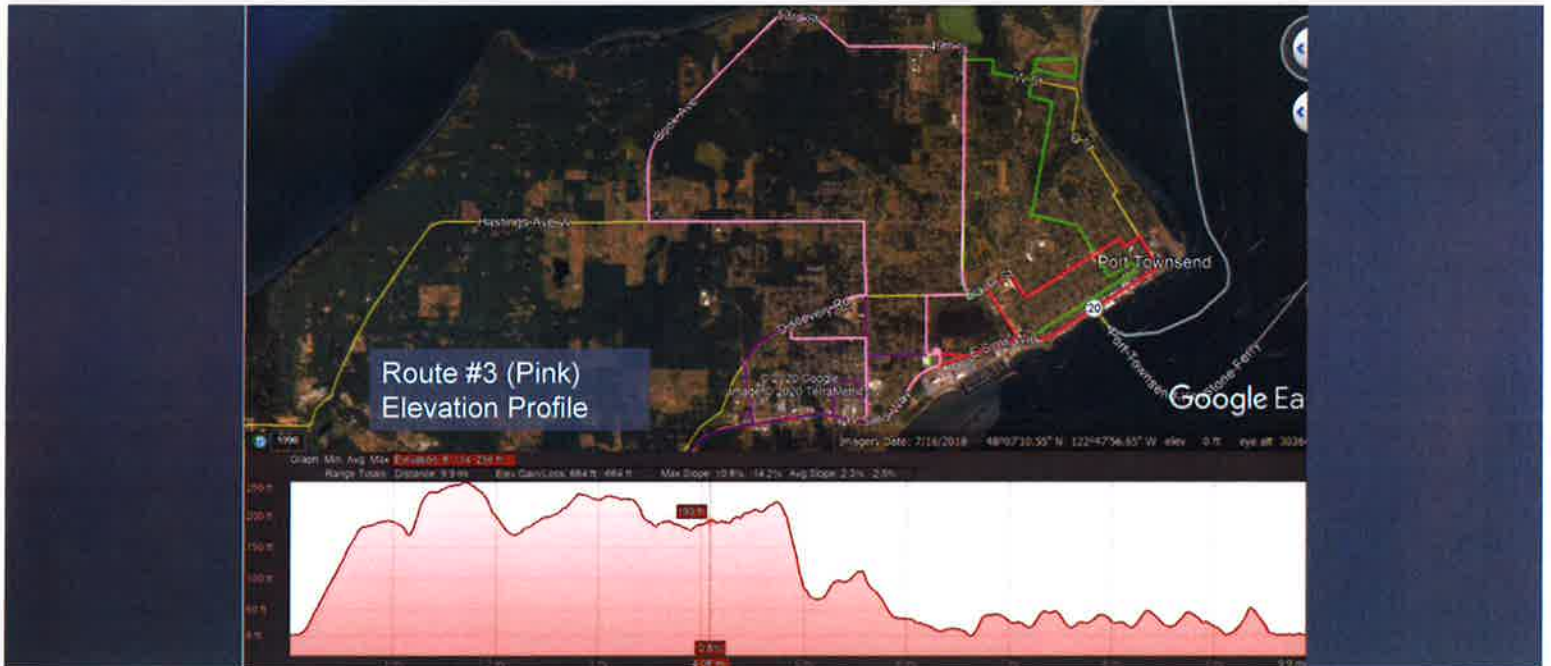
# **'EXISTING' CONDITIONS**

## INVENTORY EXISTING SYSTEMS

- Understand Existing Routes, distances traveled, layover times, elevation gains, etc.
- Relied upon schedules provided by JTA (pre COVID) and Google Earth.

Route	Area Served	Approximate Mileage (One Way)	Elevation Gain/Loss (Feet)
#1	Port Townsend – Port Hadlock/Irondale – Brinnon	46.9 miles	+3,114 / -3,125
#2	Fort Worden - Port Townsend	7.1 miles	+545 / -545
#3	Castle Hill – Port Townsend	9.9 miles	+664 / -664
#4	Upper Sims Loop – Port Townsend	5.0 miles	+425 / -425
#6	Tri Area Loop – Port Townsend – Port Hadlock/Irondale	20.2 miles	+1,183 / -1,183
#7	Poulsbo – Port Hadlock/Irondale -	34.0 miles	+2,593 / -2,765
#8	Sequim – Port Townsend	30.1 miles	+3,739 / -3,564
#11	Shuttle Loop – Port Townsend	3.9 miles	+241 / -241

## INVENTORY EXISTING SYSTEMS







# ELECTRIC BUS TECHNOLOGY

## SUMMARY OF AVAILABLE ELECTRIC BUSES

OEM	Lengths	Propulsion Type	Battery Size (KW)	Range (Miles)	Bus Costs (\$)	Base Warranty & Disposal	Extended Warranty	Additional Information on battery warranty	Battery Lease Option
New Flyer	35'	BEB	160-388	75-195	\$ 675,606.97- \$ 682,606.97	6 yrs/ 300,000 miles	6 yrs/ 200,000 miles \$ 40,718.52- \$76,861.06	to hold 80% of BOL capacity after 12 years and ~500,000 miles.	Y
	40'		160-480	75-225	\$800,000- \$1M				
	60'		213-600	55-135	\$1.1M-1.4M				
BYD	35'	BEB	350	230	\$613,885- \$698,000	12 year warranty. Pricing not available		N/A	Y
	40'		500	255	\$741,000				
	60'		652	230	\$ 1,140,000.00				
Proterra	35'	BEB	94-440	37-276	\$613,885- \$739,000	6 yrs/ 250,000 miles	6 yrs/ 250,000 miles \$ 75,000-\$112,000.	72% Energy density of the energy available per battery pack for the 12 years	Y
	40'		94-650	37-390	\$653,885- \$847,000				
NovaBus	40'	BEB	74 - 594	Not available	Not available	12 year Energy Storage System Warranty		Guaranteed at 80% capacity	Information not yet available
* Greenpower	30'	BEB	210	>175	Not available	Not available			
	35'		260	>175					
	40'		320	>185					
** Gillig Electric bus	35'	BEB	444	Not available	Not available to the market				
	40'		444	150- 210					
*** Eldorado	35'	BEB	444	Not available. The Bus is expected to be market ready on 10/2020 according to our source.	Current vendor offers a 1 + 5-year warranty. Eldorado plan to market as "6-years" or "mid-life" replacement			No	

Price estimates are influenced by several factors including model configurations, customized options (where applicable), and the evolution of technology.

Price estimates is an approximate value from recent Transit Authorities contracts and information from Bus Original Equipment Manufacturers.

\* Greenpower electric buses are not listed in Altoona test which is a FTA requirement.

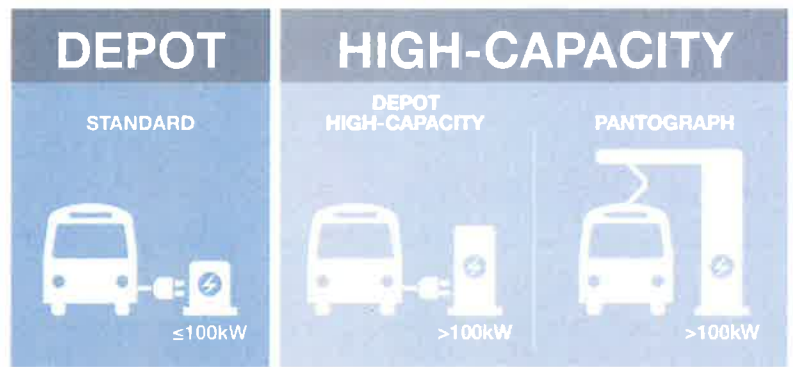
\*\* Gillig is a private own company and does not share these information

\*\*\* Eldorado bus price is estimated to be maximum \$900,000 with an estimated price of the battery packs >\$200,000 according to our source

# ELECTRIC BUS CHARGING TECHNOLOGY

OEM	Lengths	Battery Size (KW)	Range (Miles)	Designation
New Flyer	36'	160-388	75-195	Plug In Depot
	40'	160-480	75-225	Overhead Pantograph
	60'	213-600	55-135	Overhead Pantograph
BYD	35'	350	230	High Power AC charging
	40'	500	255	
	60'	652	230	
Proterra	35'	94-440	37-276	Plug In Depot
	40'	94-650	37-390	Overhead Pantograph
NovaBus	40'	74 - 594	Not available	Plug In Depot
				Overhead Pantograph
Greenpower	30'	210	>175	Plug In Depot
	35'	260	>175	
	40'	320	>185	
Gillig Electric bus	35'	444	Not available	Not available
	40'	444	150-210	
Eldorado	35'	444	Not available. The Bus is expected to be market ready on 10/2020 according to our source.	

## Charging Types:





# OPERATIONS ANALYSIS

## ELECTRIC BUS OPERATIONS ANALYSIS (1/2)

- Electrical energy requirements needed to operate a 35' battery electric bus.
- These parameters were programmed into the STV Performance and Evaluation of Electric bus Routes (**PEER**) analysis tool
  - Assumes 50% bus load
  - Minimal traffic congestion
  - Analysis done for 3 temperatures scenarios (34° F, 60° F, 74° F)

### SAMPLE ANALYSIS RESULTS

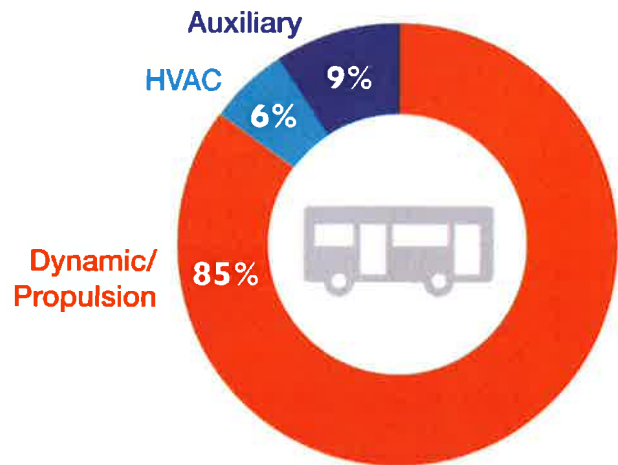
Battery Capacity	388	kWh
Degradation over Battery Life	78	kWh
Degraded Battery Capacity	310	kWh
Interior Temperature	68	Degrees F
Ambient Temperature	34	Degrees F
Route Number	#1	
Route Length (Round Trip)	84.40	miles
Round Trip Time	156	minutes
Calculated kWh / mile	2.71	kWh / mile
Net kWh per route (round trip)	218.95	kWh
Number of Round Trips Able to be Completed	1,134	trips
Total Seconds of Route	8025.00	seconds



## ELECTRIC BUS OPERATIONS ANALYSIS (2/2)

- Electrical energy requirements needed to operate a 35' battery electric bus.
- These parameters were programmed into the STV Performance and Evaluation of Electric bus Routes (PEER) analysis tool
  - Assumes 50% bus load
  - Minimal traffic congestion
  - Analysis done for 3 temperatures scenarios (34° F, 60° F, 74° F)

ENERGY CONSUMPTION BY COMPONENT



## ELECTRIC BUS OPERATIONS ANALYSIS (2/2)

- Energy requirements developed for each route.
- Requirements based on:
  - Temperature,
  - Route Elevation Profile,
  - Bus Stop Locations
- Route Profiles combined with Driver Schedules to develop energy requirements per driver block.



## ELECTRIC BUS OPERATIONS ANALYSIS (3)

### SUMMARY RESULTS

**Table 1. Weekday Driver Block Summary**

Driver Block	Routes Driven	Time Frame	Total Duration <sup>1</sup>	Total Break Duration (min) <sup>2</sup>	Total Energy Required (kWh)
A	Uptown, #2, #3, #4, #6, #7	5:15 a.m. to 1:07 p.m.	7.9 hours	50	422.63
B	#1, #2, #4, #6	5:50 a.m. to 12:45 p.m.	6.9 hours	28	434.34
C	#2, #4, #8, #11	5:50 a.m. to 1:33 p.m.	7.7 hours	57	551.19
D	Uptown, #2, #4, #6, #8	6:00 a.m. to 12:43 p.m.	6.7 hours	53	337.96
E	#2, #3, #4, #7, #8	6:30 a.m. to 6:40 p.m.	10.8 hours	172	602.19
F	#1, #4, #8, #11	6:30 a.m. to 1:55 p.m.	6.7 hours	75	470.48
G	#1, #2, #3, #6, #11	2:00 p.m. to 7:49 p.m.	5.2 hours	35	371.67
I	#3, #4, #6, #7, #11	12:00 p.m. to 8:35 p.m.	9.6 hours	100	447.27
J	#3, #4, #6, #7	12:30 p.m. to 7:49 p.m.	7.3 hours	71	422.25
K	#2, #3, #4, #8	12:00 p.m. to 7:40 p.m.	7.2 hours	74	345.56
R	#1, #2, #3, #4, #11	7:30 a.m. to 6:35 p.m.	9.6 hours	110	436.02
S	#11	12:00 p.m. to 7:05 p.m.	6.6 hours	30	194.82

Source: Google Earth and Jefferson Transit

1. Includes driving hours, lunch time but not unpaid breaks.

2. Includes paid and unpaid breaks

- 310 'usable' kWh of energy on a 35' BEB at end of life:
- Requires route restructure or on-route charging
- Possibly operate on existing schedule
- Can operate on existing schedule
- Many blocks have long breaks that would allow for charging during breaks if location is good





# ELECTRICAL ANALYSIS

## ELECTRICAL REQUIREMENTS ANALYSIS

- JPUD: No issue providing this quantity of electricity
- At Four Corners Transit Base need excavation work (trench, setting vault) conduit, service equipment – estimated \$31,000
- Haines Place P&R - excavation work (trench, setting vault), conduit, service equipment and service conducted from the transformer: estimated \$26,000
- **Does not include costs of chargers**

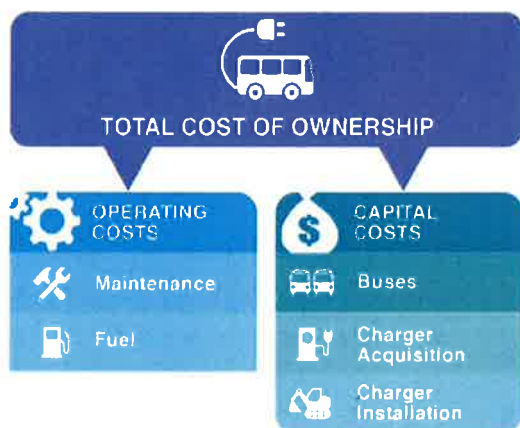
AVERAGE WEEKDAY ENERGY DEMAND





# TOTAL COST OF OWNERSHIP

## TOTAL COST OF OWNERSHIP - OVERVIEW



- References data from JTA where available (fuel & maintenance)
- 2020 National Renewable Energy Laboratory (NREL) Study:
  - BEBs reduce maintenance costs by 27%
- Electricity Costs Estimated based on current JPUD rates (Rate Schedule 26) but will need to be negotiated with JPUD
- Assumes 12-year lifecycle for both BEB and Diesel

## TOTAL COST OF OWNERSHIP – CAPITAL COSTS (1/2)

BATTERY ELECTRIC BUS



DEPOT CHARGING



FAST CHARGER

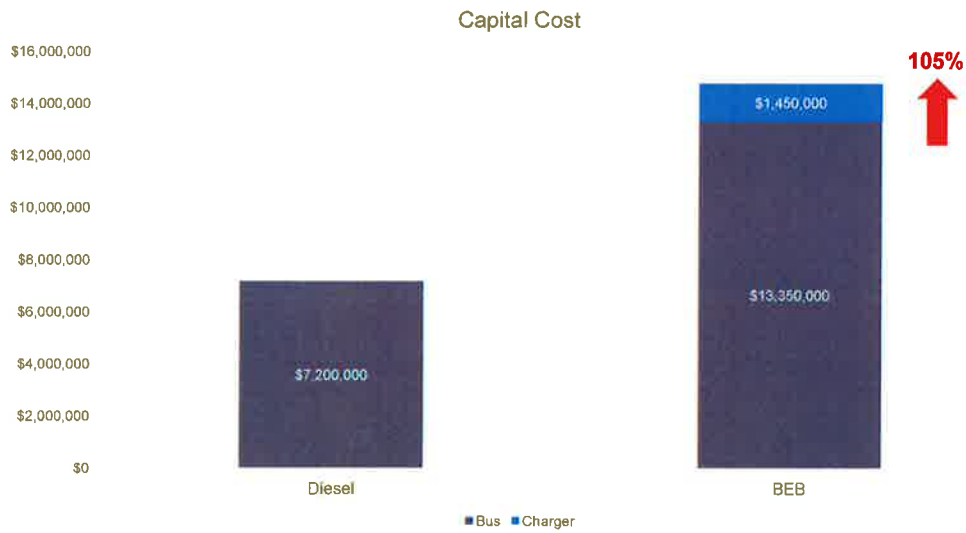


DIESEL BUS



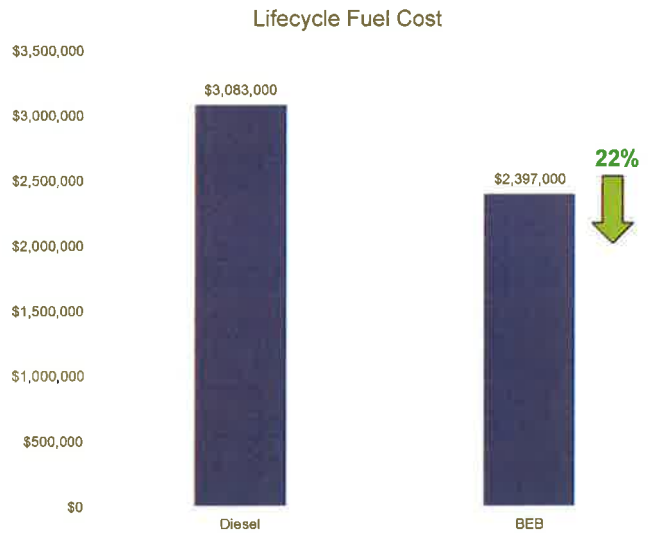
\*Electric Bus Cost Range: \$615k – \$1.4M

## TOTAL COST OF OWNERSHIP – CAPITAL COSTS (2/2)



## TOTAL COST OF OWNERSHIP – FUEL COSTS

- **Electrical Rate 26 from JPUD:**
  - \$110.00 + \$0.0757 / kWh
  - Base Fee of \$9.00/kW peak load (monthly)
  - Assumes rate increased published through 2024 then 1% increase per year
- **Diesel:**
  - \$3.18 / gallon assumed
  - Increase 0.7% per year
  - Based on 2020 NREL study

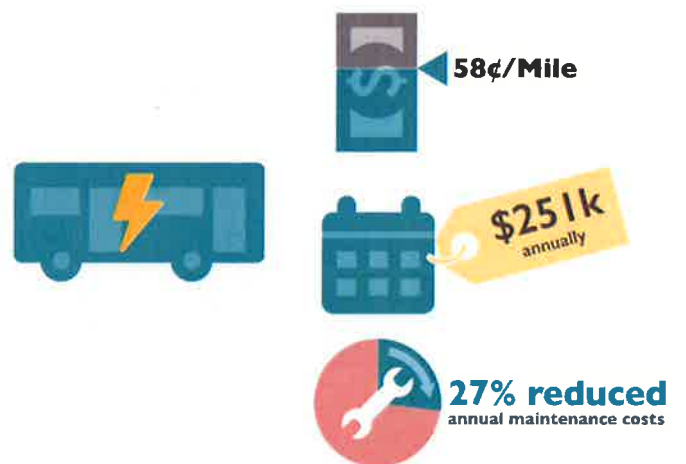


## TOTAL COST OF OWNERSHIP – MAINTENANCE COSTS (1/2)

### Existing Maintenance Costs from JTA



### BEB

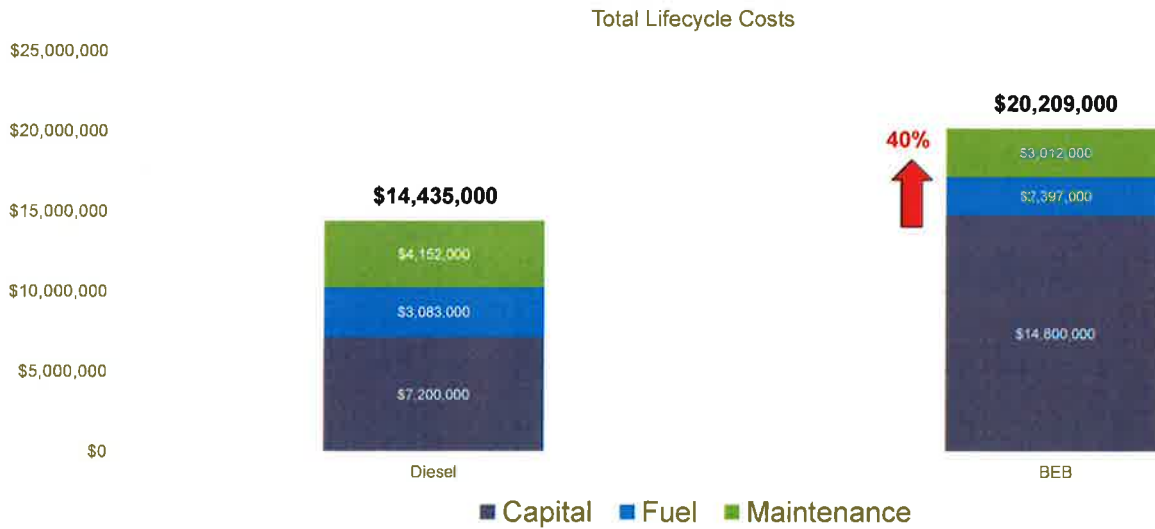




## TOTAL COST OF OWNERSHIP – MAINTENANCE COSTS (2/2)



## TOTAL COST OF OWNERSHIP – TOTAL

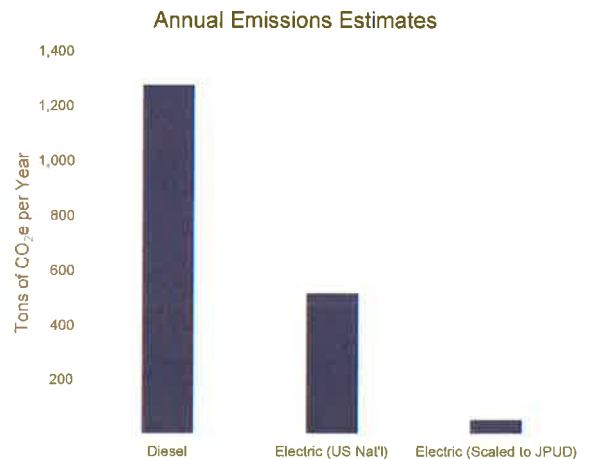




# GREENHOUSE GAS ESTIMATES

## GREENHOUSE GAS EMISSIONS FROM OPERATIONS

- Estimated CO<sub>2</sub>e g/mi<sup>1</sup>:
  - Diesel: 2,680
  - BEB: 1,078
    - Average US Energy Mix (60% fossil fuel)<sup>2</sup>
- Given JPUD's electricity mix (6% fossil fuel) and assuming linear scaling, could **save approximately 96% of emissions by switching to electric**
- Estimates only include operating emissions. Do not include emission from manufacturing



1. Union of Concerned Scientists: <https://blog.ucsusa.org/jimmy-odea/electric-vs-diesel-vs-natural-gas-which-bus-is-best-for-the-climate>  
2. US Energy Information Administration <https://www.eia.gov/energyexplained/electricity/data-and-statistics.php>



# SUMMARY

## SUMMARY



**Existing BEB technology does not allow 1:1 switch from diesel to EV given current schedule.**

*Would need to swap buses (increase fleet size), add on-route charging, or change schedule.*



**Switching to BEBs could save up to 96% of operating emissions.**



**40% increased cost to go electric.**  
*(Likely could be reduced with grant funding)*



**New infrastructure bill has \$7.5B for zero emissions buses and ferries**

# Q&A

**Paul Sharman**

*Project Manager*

425.896.5262

[paul.sharman@transpogroup.com](mailto:paul.sharman@transpogroup.com)



## Attachment B

### To Tri Area: Weekday Service

	Park & Ride	Sims @ Hendricks	Four Corners @ SR 20	Irondale at Sign Station	7 <sup>th</sup> @ Maude	5 <sup>th</sup> @ Eugene	Salmon Business Park	H.J. Carroll Park	Jefferson County Library	Hadlock Post Office	Pt. Hadlock QFC	Chimacum Chevron
#1 Brinnon			6:10					--	6:16		6:18	6:24
#7 Poulsbo	5:59	6:01	6:09						6:15		6:24	
#6A Tri Area	6:45	6:47	6:55	6:58	7:01	7:03			7:08	7:10	7:11	7:15
#1 Brinnon	7:30	7:32	7:40					--	7:45		7:48	7:53
#6B Tri Area	9:00	9:02	9:10				9:12	9:17				9:19
#7 Poulsbo	9:15	9:17	9:28						9:33		9:37	--
#6A Tri Area	10:00	10:02	10:10	10:13	10:16	10:18			10:23	10:25	10:26	10:30
#7 Poulsbo	10:40	10:42	10:50				--	--	10:57		11:01	--
#6B Tri Area	11:00	11:02	11:10				11:12	11:17				11:19
#6B Tri Area	12:00	12:02	12:10	--	--	--	12:12	12:17				12:19
#6A Tri Area	1:00	1:02	1:10	1:13	1:16	1:18			1:23	1:25	1:26	1:30
#1 Brinnon	2:00	2:02	2:12					--	2:20		2:23	2:29
#6A Tri Area	2:00	2:02	2:10	2:13	2:16	2:18			2:23	2:25	2:26	2:30
#6B Tri Area	3:00	3:02	3:10	--	--	--	3:12	3:17				3:19
#7 Poulsbo	3:12	3:14	3:23				--	--	3:31		3:35	--
#6A Tri Area	4:00	4:02	4:10	4:13	4:16	4:18	--	--	4:23	4:25	4:26	4:30
#7 Poulsbo	5:08	5:10	5:19				--	--	5:26		5:31	--
#1 Brinnon	5:37	5:39	5:47					--	5:53		5:55	5:57
#6B Tri Area	7:05	7:07	7:15	--	--	--	7:17	7:22	--	--	--	7:24

courtesy Gerald Braude

### To Tri Area: Saturday Service

#1 Brinnon	6:50	6:52	7:00					--	7:04		7:07	7:12
#6A Tri Area	9:00	9:02	9:10	9:13	9:16	9:18			9:23	9:25	9:26	9:30
#7 Poulsbo	9:25	9:27	9:35				--	--	9:40		9:44	--
#6B Tri Area	11:00	11:02	11:10	--	--	--	11:12	11:17				11:19
#6B Tri Area	1:00	1:02	1:10	--	--	--	1:12	1:17				1:19
#7 Poulsbo	2:30	2:32	2:40						2:45		2:49	
#6A Tri Area	4:00	4:02	4:10	4:13	4:16	4:18			4:23	4:25	4:26	4:30
#1 Brinnon	5:25	5:27	5:35					--	5:39		5:42	5:47
#6B Tri Area	7:05	7:07	7:15	--	--	--	7:17	7:22				7:24

courtesy Gerald Braude



**To Port Townsend: Weekday Service**

	Chimacum Chevron	Curtis@ Irontdale	Hadlock Post Office	Jefferson County Library	Hwy 19 & WA 116	5 <sup>th</sup> @ Eugene	7 <sup>th</sup> @ Maude	Hwy 19. @ McCrories	HJ Carroll Park	Salmon Business Park	Four Corners & SR 20	Jefferson Healthcare	Park & Ride
#6A Tri Area	7:15	--	--	--	--				7:17	7:19	7:24	7:33	7:35
#1 Brinnon	7:51	7:57		8:00	8:01				--		8:07	8:19	8:22
#7 Poulsbo		8:05		8:08					--		8:14	8:23	8:27
#6B Tri Area	9:19	9:21	9:22	9:25	--	9:29	9:32	9:35	--	--	9:39	9:48	9:52
#1 Brinnon	9:58	10:04		10:07	10:08						10:13	10:24	10:26
#6A Tri Area	10:30								10:32	10:34	10:39	10:48	10:52
#6B Tri Area	11:19	11:21	11:22	11:25		11:29	11:32	11:35	--	--	11:39	11:48	11:53
#7 Poulsbo		11:32		11:36					--		11:41	11:50	11:54
#6B Tri Area	12:19	12:21	12:22	12:25			12:32	12:35			12:39	12:48	12:52
#7 Poulsbo		12:54		12:58					--		1:03	1:12	1:16
#6A Tri Area	1:30								1:32	1:34	1:39	1:50	1:52
#6A Tri Area	2:30								2:32	2:34	2:39	2:48	2:52
#6B Tri Area	3:19	3:21	3:22	3:25			3:32	3:35	--	--	3:39	3:48	3:52
#1 Brinnon	4:12	4:18		4:21	4:23	--	--		--		4:27	4:37	4:40
#6A Tri Area	4:30								4:32	4:34	4:39	4:48	4:52
#7 Poulsbo		5:50		5:54							5:59	6:08	6:12
#6B Tri Area	7:24	7:26	7:27	7:30	--	7:34	7:37	7:40	--	--	7:44	--	--
#7 Poulsbo		7:35		7:39		--	--		--	--	7:44	7:53	7:57
#1 Brinnon	7:30	7:36		7:39	7:41				--		7:44	--	--

courtesy Gerald Braude

**To Port Townsend Saturday Service:**

#1 Brinnon	8:51	8:57		9:00	9:01				--		9:08	9:18	9:20
#6A Tri Area	9:30								9:32	9:34	9:39	9:48	9:50
#6B Tri Area	11:19	11:21	11:22	11:25		11:29	11:32	11:35	--	--	11:39	11:48	11:53
#7 Poulsbo		11:22		11:26							11:31	11:39	11:43
#6B Tri Area	1:19	1:21	1:22	1:25		1:29	1:32	1:36	--	--	1:39	1:48	1:53
#6A Tri Area	4:30								4:32	4:34	4:39	4:48	4:52
#7 Poulsbo	--	4:47		4:51					--		4:56	5:04	5:08
#1 Brinnon	7:26	7:32		7:35	7:36				--		7:40	--	--
#6B Tri Area	7:24	7:26	7:27	7:30		7:34	7:37	7:40	--	--	7:44	7:53	7:55

courtesy Gerald Braude

## Attachment C

2019 Ridership Total including JTOC 258,956															2.8% increase in JT fixed route service, 5.6% decrease in JTOC service	
2019	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec	Total Riders	Monthly Average		
#1 Brinnon	1541	1172	1313	1541	1423	1351	1258	1419	1309	1488	1105	1099	15997	1333		
#11 Shuttle	5559	4616	5892	5888	5850	6184	6597	8809	5388	5920	5186	5212	69011	5751		
#2 Ft. Worden	1694	1383	1660	1727	1620	1996	2051	2037	1640	1620	1431	1421	20450	1704		
#3 Castle Hill	1441	1204	1540	1650	1574	1727	1723	1791	1684	1703	1431	1391	18769	1563		
#4 Upper Sims Loop	3590	3100	3571	3788	3584	3334	3343	3735	3120	3437	3350	3456	41387	3450		
#6A Tri Area	1264	1122	1341	1488	1473	1328	1284	1405	1263	1616	1280	1208	18078	1340		
#6B Tri Area	1163	989	1238	1267	1282	1264	1270	1413	1084	1174	1005	1117	14295	1191		
#7 Poulsbo	1823	1605	1988	2015	1943	1839	2057	2302	1928	2016	1746	1634	22904	1909		
#8 Sequim	1716	1374	1645	1611	1640	1537	1716	1975	1647	1861	1580	1470	19772	1648		
Wooden Boat									4979				4979			
<b>Riders</b>	<b>19791</b>	<b>16565</b>	<b>19998</b>	<b>20993</b>	<b>20679</b>	<b>20548</b>	<b>21297</b>	<b>22886</b>	<b>23940</b>	<b>20815</b>	<b>18124</b>	<b>18007</b>	<b>243643</b>	<b>20304</b>		
<b>Average Per Day</b>	<b>761.19</b>	<b>720.22</b>	<b>769.15</b>	<b>807.42</b>	<b>795.35</b>	<b>821.92</b>	<b>819.12</b>	<b>847.63</b>	<b>997.50</b>	<b>770.93</b>	<b>755.17</b>	<b>720.28</b>	<b>798.83</b>			
<b>On Time Performance</b>	<b>94.96</b>	<b>95.39</b>	<b>93.96</b>	<b>90.07</b>	<b>86.84</b>	<b>87.22</b>	<b>87.91</b>	<b>90.21</b>	<b>88.84</b>	<b>89.69</b>	<b>91.47</b>	<b>89.72</b>	<b>87.07</b>	<b>90.52</b>		
<b>#Days In Service</b>	<b>26</b>	<b>23</b>	<b>26</b>	<b>26</b>	<b>26</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>24</b>	<b>27</b>	<b>24</b>	<b>25</b>	<b>305</b>	<b>25.42</b>		
<b>Mileage</b>	<b>39041</b>	<b>35624</b>	<b>38319</b>	<b>39037</b>	<b>39056</b>	<b>36660</b>	<b>38990</b>	<b>39859</b>	<b>35765</b>	<b>40597</b>	<b>35050</b>	<b>37376</b>	<b>453374</b>	<b>37948</b>		

### 2019 Notes

Feb 9, 2019 All JTA routes Cancelled due to SNOW

Feb 11, 2019 JTA 11A at 0740 missed due to snow/Closed JTOC service at 10:00, last three JTOC routes of the day Cancelled due to SNOW

2020 Ridership Total including JTOC 106,716															58.5 % decrease in JT fixed route service, 62.6% decrease in JTOC service	
2020	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec	Total Riders	Monthly Average		
#1 Brinnon	1206	1333	1004	265	230	299	307	307	280	399	449	538	8617	551		
#11 Shuttle	5230	5079	3425	1016	854	1169	1348	1478	1414	1548	2015	2356	26932	2244		
#2 Ft. Worden	1470	1498	949	302	338	351	483	358	353	388	844	754	7884	655		
#3 Castle Hill	1351	1428	887	232	347	452	532	349	372	435	849	810	7844	654		
#4 Upper Sims Loop	3372	3416	2322	678	645	923	985	811	889	957	1467	1691	18258	1521		
#6A Tri Area	1250	1370	1075	498	479	511	579	505	493	533	628	627	8447	704		
#6B Tri Area	1091	1101	851	284	288	324	309	286	258	313	562	615	8293	524		
#7 Poulsbo	1601	1880	1158	402	443	476	471	486	478	440	509	708	9030	753		
#8 Sequim	1536	1491	1029	516	555	854	885	871	613	613	641	734	9718	810		
Wooden Boat									CV19				CV19			
<b>Riders</b>	<b>18107</b>	<b>18576</b>	<b>12698</b>	<b>4194</b>	<b>4179</b>	<b>5159</b>	<b>5679</b>	<b>5359</b>	<b>5151</b>	<b>5604</b>	<b>7462</b>	<b>8833</b>	<b>101001</b>	<b>8417</b>		
<b>Average Per Day</b>	<b>696.42</b>	<b>743.04</b>	<b>488.38</b>	<b>190.64</b>	<b>208.95</b>	<b>234.50</b>	<b>246.91</b>	<b>255.19</b>	<b>245.29</b>	<b>254.73</b>	<b>324.43</b>	<b>339.73</b>	<b>364.62</b>			
<b>On Time Performance</b>	<b>89.68</b>	<b>91.3</b>	<b>92.34</b>	<b>91.84</b>	<b>88.69</b>	<b>94.81</b>	<b>94.51</b>	<b>89.17</b>	<b>87.2</b>	<b>93.18</b>	<b>96.4</b>	<b>96.1</b>	<b>92.1</b>	<b>92.20</b>		
<b>#Days In Service</b>	<b>26</b>	<b>25</b>	<b>26</b>	<b>22</b>	<b>20</b>	<b>22</b>	<b>23</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>26</b>	<b>277</b>	<b>23</b>		
<b>Mileage</b>	<b>38539</b>	<b>36660</b>	<b>36988</b>	<b>15423</b>	<b>13992</b>	<b>15383</b>	<b>16090.8</b>	<b>14692</b>	<b>14692</b>	<b>15391</b>	<b>34160</b>	<b>38991</b>	<b>291001</b>	<b>44769</b>		

### 2020 Notes

Week of January 13th, 2020 snow storm, ridership for the week was down approx 600 riders

1/31/2020 Bridge Closure due to winds, closure approx 7 hours, last two Poulsbo routes unable to go to Viking TC

3/30/20 began reduced service due to COVID-19

11/2/2020- Returned to full/regular Monday-Saturday service.

2019	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Riders	Monthly Average
JTOC	1268	1096	1183	1455	1502	1201	1202	1511	1355	1179	1183	1178	15313	1276
#Days In Service	26	23	26	26	26	25	26	27	24	27	24	25	305	25
JTOC Mileage	12520	10825	12123	12465	12402	11581	12036	12697	11379	12218	11217	11972	143435	11953

Notes: Feb - two days early closure due to snow

Ridership 2018 compared to 2019, decrease of 5.6%

2020	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Riders	Monthly Average
JTOC Riders	1058	997	996	284	187	306	314	308	367	357	315	340	5829	486
#Days In Service	26	25	26	22	20	22	23	21	21	22	19	22	269	22
JTOC Mileage	12229	11711	12003	5854	5460	5986	7193	8638	8572	9328	8010	9288	104272	8689

Notes: Snow week of January 13th  
 CV19- March 30th reduced service  
 July 22- 7:00am service restored.

Ridership 2019 compared to 2020, decrease of 62.6%

2021	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Riders	Monthly Average
JTOC Riders	326	372	464	477	558	484	590						3271	467
#Days In Service	21	23	27	26	25	26	27						175	25
JTOC Mileage	9444	10894	12923	12365	11692	12420	12697						82435	11776

Notes:

January 19, 2021 JTOC returned to full schedule

2021	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec	Total Riders	Monthly Average
#1 Brinnon	492	636	670	760	725	812	825						4920	703
#11 Shuttle	2193	2040	2906	2737	2462	3013	3481						18832	2690
#2 Ft. Worden	753	678	815	961	891	997	1253						6348	907
#3 Castle Hill	827	786	1043	1039	993	1031	1186						6905	985
#4 Upper Sims Loop	1608	1501	2074	1953	1768	1984	2132						13020	1860
#6A Tri Area	612	642	884	822	824	858	843						5485	784
#6B Tri Area	562	655	833	852	776	866	825						5369	767
#7 Poulsbo	678	709	1042	932	1001	1139	1309						6810	973
#8 Sequim	632	599	889	847	876	976	1115						5934	848
Wooden Boat													0	
<b>Riders</b>	<b>8357</b>	<b>8246</b>	<b>11156</b>	<b>10903</b>	<b>10316</b>	<b>11676</b>	<b>12969</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>73623</b>	<b>6135</b>
<b>Average Per Day</b>	<b>346.21</b>	<b>358.52</b>	<b>413.19</b>	<b>419.35</b>	<b>412.64</b>	<b>449.08</b>	<b>480.33</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>		
<b>On Time Performance</b>	<b>96.1</b>	<b>96.4</b>	<b>96.2</b>	<b>96.8</b>	<b>96.3</b>	<b>95.47</b>	<b>96.5</b>							<b>96.25</b>
<b>#Days In Service</b>	<b>24</b>	<b>23</b>	<b>27</b>	<b>26</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>26</b>	<b>25</b>	<b>26</b>	<b>24</b>	<b>26</b>		<b>25</b>
<b>Mileage</b>	<b>35050</b>	<b>34160</b>	<b>40584</b>	<b>38991</b>	<b>36661</b>	<b>38991</b>	<b>39877</b>							<b>37759</b>

2021 Notes

2/13/21 There was a snowstorm which reduced ridership

Wooden Boat Festival September 7-9 2018 Ridership			
Fri 9/7	Sat 9/8	Sun 9/9	Total
1322	2185	724	4231

Wooden Boat Festival September 6-8 2019 Ridership			
Fri 9/6	Sat 9/7	Sun 9/8	Total
1374	2872	733	4979

Wooden Boat Festival September 2020 cancelled/COVID			

Wooden Boat Festival September 10-12 2021 Ridership			
Fri 9/10	Sat 9/11	Sun 9/12	Total
0	0	0	0

**Vanpool Ridership**

<b>2021 Jefferson Transit</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Averages</b>
Vanpool Groups in Operation	0	0	0	0	0	0							
Vans Available	9	9	9	9	9	9							
Loaner/Spare Vans in Fleet	2	2	2	2	2	2							
Total Active Vans in Fleet	11	11	11	11	11	11							
Loaners as % of Vanpool Fleet	18.18%	18.18%	18.18%	18.18%	18.18%	18.18%	18.18%	18.18%	18.18%	18.18%	18.18%	18.18%	
Vanpool Group Starts	0	0	0	0	0	0							
Vanpool Group Folds	0	0	0	0	0	0							
Passenger Trips	0	0	0	0	0	0							0
Average Riders Per Van	0.0	0.0	0.0	0.0	0.0	0.0							0
Revenue Miles Traveled	0	0	0	0	0	0							0
Average Round Trip Miles	0.0	0.0	0.0	0.0	0.0	0.0							0
Revenue Hours:	0	0	0	0	0	0							0



Dial-A-Ride

2020	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec	Totals	Average
Client Boardings	1188	1245	769	193	283	377	512	513	464	622	437	494	6957	580
PCA Boardings	51	100	50	8	16	26	23	14	9	33	16	50	394	33
Other Boardings	4	7	8	0	0	2	0	0	0	0	0	0	21	2
<b>Riders</b>	<b>1223</b>	<b>1352</b>	<b>827</b>	<b>199</b>	<b>279</b>	<b>405</b>	<b>535</b>	<b>527</b>	<b>473</b>	<b>555</b>	<b>453</b>	<b>544</b>	<b>7372</b>	<b>614</b>
Trips	1113	1138	711	187	247	349	489	489	455	489	421	444	6542	545
Service Hours	653	827	481	173	202	253	319	320	294	314	298	302	4216	351
Service Mileage	5888	5955	4322	1428	1629	2497	3314	3315	2081	3192	2846	2843	40388	3366
Avg Riders per day	47	54	32	9	14	18	23	25	23	25	20	22	26.71	25.99
Trip Productivity	1.10	1.19	1.16	1.06	1.13	1.16	1.09	1.06	1.04	1.13	1.08	1.23	1.13	1.12
On Time Performance	95%	93%	92%	93%	94%	92%	92%	91%	91%	96%	98%	96%		94%
#Days In Service	26	25	26	22	20	22	23	21	21	22	23	25	276	23

\*February has a drop in ridership due to inclement weather/ snows day in which many riders cancelled their trips.

\*February 9th DAR cancelled due to snow routes

2021	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec	Totals	Monthly Average
Client Boardings	512	462	730	724	801	712	731						4672	667
PCA Boardings	30	23	48	56	51	0	50						258	37
Other Boardings	0	1	0	4	4	41	5						55	8
<b>Riders</b>	<b>542</b>	<b>486</b>	<b>778</b>	<b>784</b>	<b>856</b>	<b>753</b>	<b>786</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4985</b>	<b>712</b>
Trips	482	438	682	664	748	712	731						4456	636
Service Hours	322	310	439	397	427	482	427						2804	401
Service Mileage	3168	3083	4240	3899	4388	4495	4647						27876	3982
Avg Riders per day	22.58	21.13	28.81	30.15	34.24	28.96	29.11						28.01	27.86
Trip Productivity	1.12	1.11	1.14	1.18	1.15	1.06	1.08						1.12	1.12
On Time Performance	94%	94%	94%	95%	94%	94%	93%							94%
#Days In Service	24	23	27	26	25	26	27						178	25