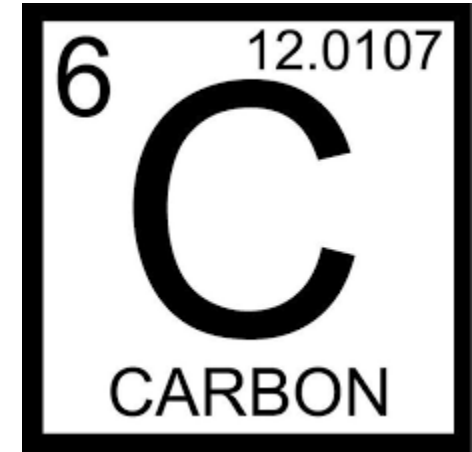


WTA

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Presentation for the Climate Action Task Force
May 1, 2019

The Basics

- WTA is an independent public agency overseen by a nine member Board of Directors representing all of Whatcom County (3 – Bellingham, 2 – Whatcom County, 1 each from Ferndale, Lynden, Blaine/Birch Bay and Everson/Nooksack/Sumas).
- WTA operates 30 bus routes, ADA paratransit service, Vanpools and a service unique to Whatcom County – Zone service (limited call-ahead service 1-2 days per week from all populated areas of the county, except Newhalem/Diablo).
- ~85% of WTA's operating funds comes from 0.6% sales tax. Fares make up about 10% of the budget.
- Generally large capital projects (buildings, buses, park & rides, etc) are 80% funded by federal grants with a 20% local match.

WTA Services and Performance

2018	Fixed Route	Paratransit	Zone	Vanpool
				
Boardings	4,542,536	213,955	1,753	47,591
Revenue Hours	148,483	72,242	1,034	7,502
Revenue Miles	2,100,487	929,655	23,685	406,554
Passenger Miles	13,012,492	1,169,065	29,995	1,977,967
Boardings per Hour	30.6	3.0	1.7	6.3
Passenger Miles per Hour	87.6	16.2	29.0	263.7
Passenger Miles per Boarding	2.9	5.5	17.1	41.6

Reasons for Public Transportation

True or False?

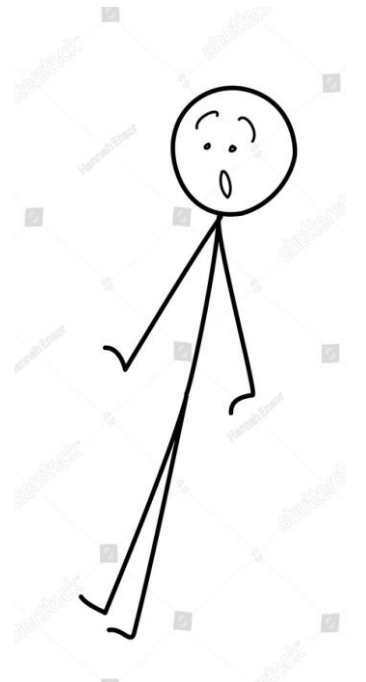
- It is a critical service for low income / disadvantaged persons
- It helps build social cohesion
- It's safer than driving
- It reduces congestion
- It reduces GHG emissions
- All of the above



Reasons for Public Transportation

True or False?

- It is critical for low income / disadvantaged persons - True
- It helps build social cohesion – True
- It's safer than driving - True
- It reduces congestion – Debatable but probably false
- It reduces GHG emissions – False (at present)
- All of the above - False



WTA Data Generating the Following Slides

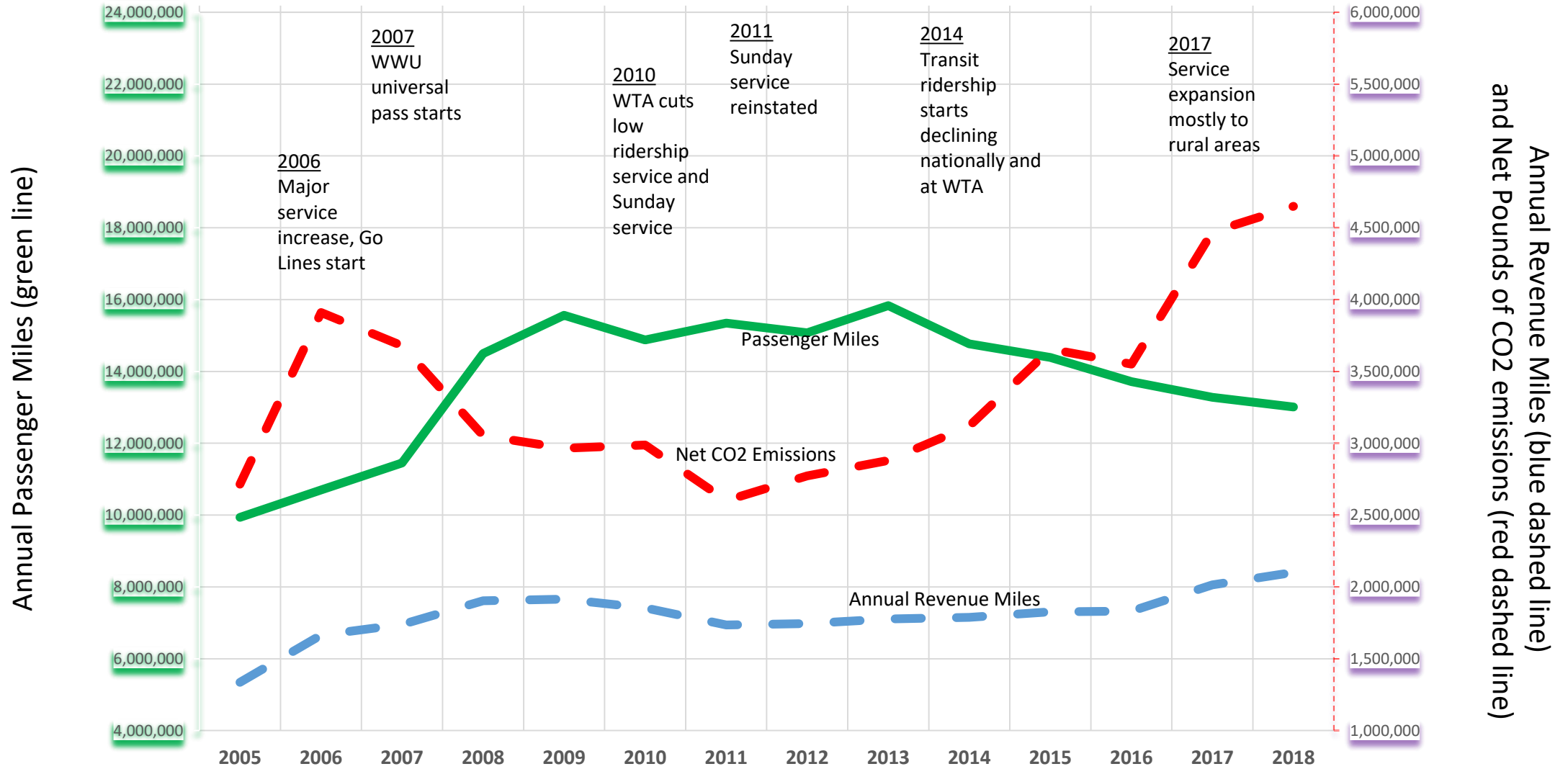
	Rev. Miles	Rev. Hours	Passenger Trips	% Add Car Trip*	Avg. Bus Trip Length (miles)	Passenger Miles
2005	1,335,308	98,148	2,961,436	35.0%**	3.36	9,937,470
2006	1,665,434	122,560	3,232,652	35.0%**	3.31	10,703,197
2007	1,738,466	127,437	3,549,948	37.8%	3.23	11,451,050
2008	1,902,962	139,100	4,701,884	40.1%	3.08	14,497,694
2009	1,915,082	140,217	4,927,776	38.3%	3.16	15,566,535
2010	1,853,845	135,071	4,720,951	38.1%	3.15	14,876,111
2011	1,735,209	125,386	4,686,695	36.1%	3.27	15,344,966
2012	1,745,067	125,429	4,702,827	35.7%	3.21	15,075,505
2013	1,777,273	130,117	4,986,650	34.2%	3.18	15,833,752
2014	1,788,497	129,869	4,972,217	35.1%	2.97	14,767,484
2015	1,827,236	131,430	4,934,429	32.9%	2.92	14,388,850
2016	1,831,845	131,757	4,701,668	35.6%	2.92	13,714,443
2017	2,014,058	142,321	4,602,021	35.3%	2.89	13,276,920
2018	2,100,486	148,522	4,542,536	34.7%	2.86	13,012,492

Plus, average miles per gallon for a diesel bus and gasoline car and pounds of CO2 per gallon of fuel

* Generally around 30% would have walked, 15% biked, 16% would not have made the trip.

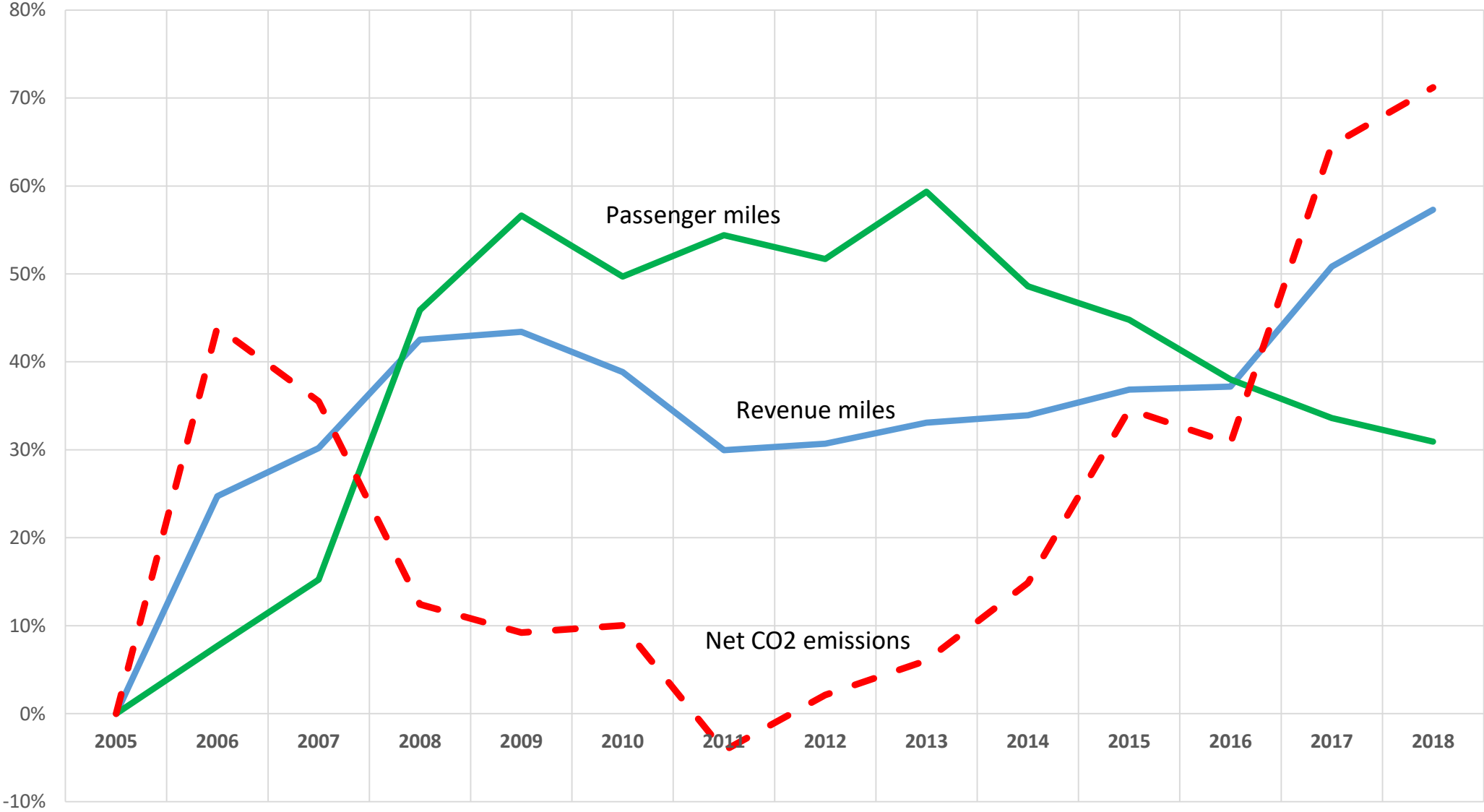
** estimate

Net Annual Pounds of Carbon Emissions with Changes in Passenger Miles and Revenue Miles (2005 - 2018)



Annual Revenue Miles (blue dashed line)
and Net Pounds of CO2 emissions (red dashed line)

Change in Passenger Miles, Revenue Miles and Net CO2 emissions since 2005



What Would It Take to Get WTA to be Carbon Neutral

(assuming no increase in service)?

	Passenger Trips	% Add Car	Avg. Trip Length	Passenger Miles
2018 Actual	4,542,536	34.7%	2.86	13,012,492
Passenger Trips	10,500,000	34.7%	2.86	30,000,000
% Add Car	4,542,536	81.0%	2.86	13,012,492
Avg. Trip Length	4,542,536	34.7%	6.60	30,000,000
Combo	5,500,000	40%	4.76	26,180,000

So Where Should WTA Focus It's Efforts?

	Passenger Trips	% Add Car	Avg. Trip Length	Passenger Miles
2018 Actual	4,542,536	34.7%	2.86	13,012,492
Passenger Trips	10,500,000	34.7%	2.86	30,000,000
% Add Car	4,542,536	81.0%	2.86	13,012,492
Avg. Trip Length	4,542,536	34.7%	6.60	30,000,000
Combo	5,500,000	40%	4.76	26,180,000

	Bellingham	Rural Areas
Passenger Trips per Hour	36.7	11.3
% Add Car	33%	50%
Avg. Trip Length (miles)	2.12	10.52

WTA's 2018 Fixed Route Net CO2 Impact (Bellingham vs. Rural)

	Rev. Miles	Rev. Hours	Passenger Trips	Passenger Miles	Vehicle Miles Saved	Net CO2 per Passenger Mile
B'ham	1,282,546	112,937	4,140,289	8,782,270	2,611,735	
Rural	817,940	35,584	402,247	4,230,223	1,903,600	
% B'ham	61%	76%	91%	67%	58%	0.37#
% Rural	39%	24%	9%	33%	42%	0.34#

Why is Transit Ridership Down?

- Strong economy = higher car ownership rates
- Uber/Lyft
- Moderate gas prices
- Growth in online shopping
- Growth in distance based learning
- Teleworking
- Bike sharing



Q. What Would It Take to Get WTA to be Carbon Neutral under the Current Model?

A. It's not going to happen with Fossil Fuel Powered Buses. The fleet has to electrify.



Issues with Fleet Electrification

- Electric buses are slowly gaining a toehold in the U.S. compared to other parts of the world (13% of U.S. transit agencies have or have ordered electric buses). **WTA has two coming in 2020 and is building 12 charging stations as we speak. China is leading the way by far.**
- There are many unknowns (battery lifespan, life cycle cost, miles per charge, cold weather effect on start up, etc)

WTA Wants to Move Forward on this but.....

- WTA has other major capital projects competing for dollars
 - ❖ Maintenance base expansion
 - ❖ Downtown Bellingham Station expansion
 - ❖ Ever increasing IT presence on buses
- Future fleet replacement is currently budgeted at diesel bus prices (this is being reviewed)
- Support of the Board of Directors for a major push to electrify is uncertain

The bottom line is (in my opinion)

The current funding stream is inadequate to replace retired diesel buses with electric

Funding for Electric Buses and Infrastructure

- Electric buses cost twice as much as a diesel bus (~\$1M each).
- Each bus needs a charging station for an overnight charge (~\$100,000 each).
- To fully electrify the WTA fixed route fleet would cost around \$36M more in local funds than diesel (60 buses x \$600K more per bus)

WTA's sales tax rate is 0.6%. In 2018 that totaled around \$28M in revenue (or \$4.7M per 0.1%)

By law the sales tax rate can be raised up to 0.9% by a simple majority vote.

Q1. Would a sales tax increase vote succeed if tied to climate?

Q2. Is electrifying WTA's fleet the best use of local dollars to reduce GHG?

