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RE: Comments on TCI Strategies for Regional Collaboration

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David T. Stevenson, Director

At its heart the Transportation Climate Initiative (TCI) is a program to promote the electrification of the transportation sector. Full battery compact cars like the Tesla Model 3 and the Chevy Bolt, and buses cost twice as much as conventional vehicles with the cost differential expected to fall very slowly. TCI would add a 20 to 40 cent/gallon tax to gasoline and diesel fuel to provide revenue to partially subsidize purchases of these expensive vehicles.

Higher fuel costs will reverberate through the economy with higher prices for everything. It is inescapable these higher costs will hurt the poor the most, especially the rural poor with longer commutes, while the subsidies will primarily go to higher income families that can afford the higher priced vehicles, and will reap the additional benefit of avoiding fuel taxes that support highway construction and maintenance. Poor families often already have to decide between paying energy bills or buying food and health care.

The Georgetown Climate Center that promotes TCI is attempting to win support from legislators from low income areas by promising 35% of TCI revenue in their districts. Finding unique transportation based investments for those districts that will actually help is problematic. What is proposed so far likely won't help:

- TCI proposes additional air quality monitoring, but that need is already met by state and federal agencies
- TCI proposes subsidies for electric buses, but 60% of diesel fueled buses have already been replaced with low emission alternatives, and massive new subsidy programs are working their way through Congress to invest in more low emission buses
- TCI promises subsidies for EV charging which is done almost 90% at home, but most states already offer such subsidies, and low income families are unlikely to buy expensive electric vehicles and are much less likely to have dedicated parking places at home for charging such as garages, or driveways.
- TCI promises jobs will be created in poor neighborhoods, but offers no evidence or specifics of where those jobs will come from

The TCI promise of equitable outcomes for low income communities rings hollow.

Air Quality Monitoring - Ozone

TCI strategies call for establishing additional air quality monitoring, especially for potential point source pollution. This is an unnecessary duplication of EPA effort and does not require separate funding by TCI revenue.

The Environmental Protection Agency (EPA) establishes National Ambient Air Quality Standards (NAAQS) for seven air pollutants. The standards are reviewed every five years, and reviews were just completed last year. The standards are set based on a review of the best available science with a significant safety margin built in. Hourly air quality readings are measured by approved Air Quality Monitoring (AQM)



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stations with the EPA determining what pollutants are measured at each station, and the EPA determining where locations are needed. Urban areas have been reviewed for potential classification as a “Nonattainment Area” to account for emissions from nearby areas that are in attainment but may be contributing to high readings in the urban areas. A thorough analysis is done on a periodic basis of these areas including a detailed map of significant point sources. Each state with Nonattainment Areas must establish an EPA approved plan for bringing the area into attainment.

The primary pollutant in Nonattainment is ozone which must have a three year average no higher than 70 parts per billion (PPB) for the 4th highest reading. Based on the latest data¹ there are counties in Connecticut, Maryland, New York, Pennsylvania, and the District of Columbia with Nonattainment Areas. The two Nonattainment counties in New York, and Pennsylvania only exceed the standard by 1 PPB and should meet the standard shortly. Basically, ten states considering TCI need no additional effort to come into Attainment for ozone.

COVID 19 lockdowns provided a natural experiment on the impact of greatly reduced travel on air pollution as shown in a 2020 study titled, “COVID-19 Lockdowns Impact on Ozone Pollution”². The study showed ozone pre-cursor pollution fell about half in the last third of March, 2020, as land and air traffic fell dramatically along with electric generation while ozone levels only fell 2.5% in the Philadelphia Nonattainment Area. The primary reason appears to be natural background levels and uncontrollable international pollution now account for half of baseline ozone concentrations. Decades of effort to reduce ozone pollution have paid off, but as the manmade percentage falls further improvement will become more difficult.

Air Quality Monitoring Fine - Particles

The TCI strategy calls special attention to fine particle pollution. The EPA measures levels of these particles (PM_{2.5}) and the standard is to be below 12 µg/m³ annual average, averaged over a three years. For the twelve state region considering joining the TCI there is only one AQM station that has been in Nonattainment for PM_{2.5} near Pittsburgh (station 420030064). Even that station is in Attainment for the latest three years measuring 11.6 µg/m³ over the period 2018-2020 with the most recent annual average at 9.1 TCI is looking for health problems where there are none.

A TCI statement refers to a Rhode Island Department of Environmental Management study³ showing higher air pollution in one urban area along the I-95 corridor as evidence of the impact of motor vehicle traffic. A sample of one location is not indicative of all urban areas.

Air quality monitors were stationed from a few feet of the roadway with several others at 40-100 feet away. The EPA Quality Assurance Handbook⁴ requires stations to be setback at least 325 feet for ozone and 520 feet for fine particles when urban daily traffic counts exceed 70,000 vehicles/day such as was seen in the test areas around Providence. The simple reason is pollution dispersion occurs rapidly with distance and is not representative of what people actually experience. The RI study proves the point with average concentrations of volatile organic compounds and fine particle concentrations dropping in half just 40 feet from the highway. Fine particle pollution peaked at 1.6 µ/M³ at 40 feet, only 13% of the air quality standard meaning there is little health risk. We note the fine particle pollution peaked at 6 to 7 AM which the study



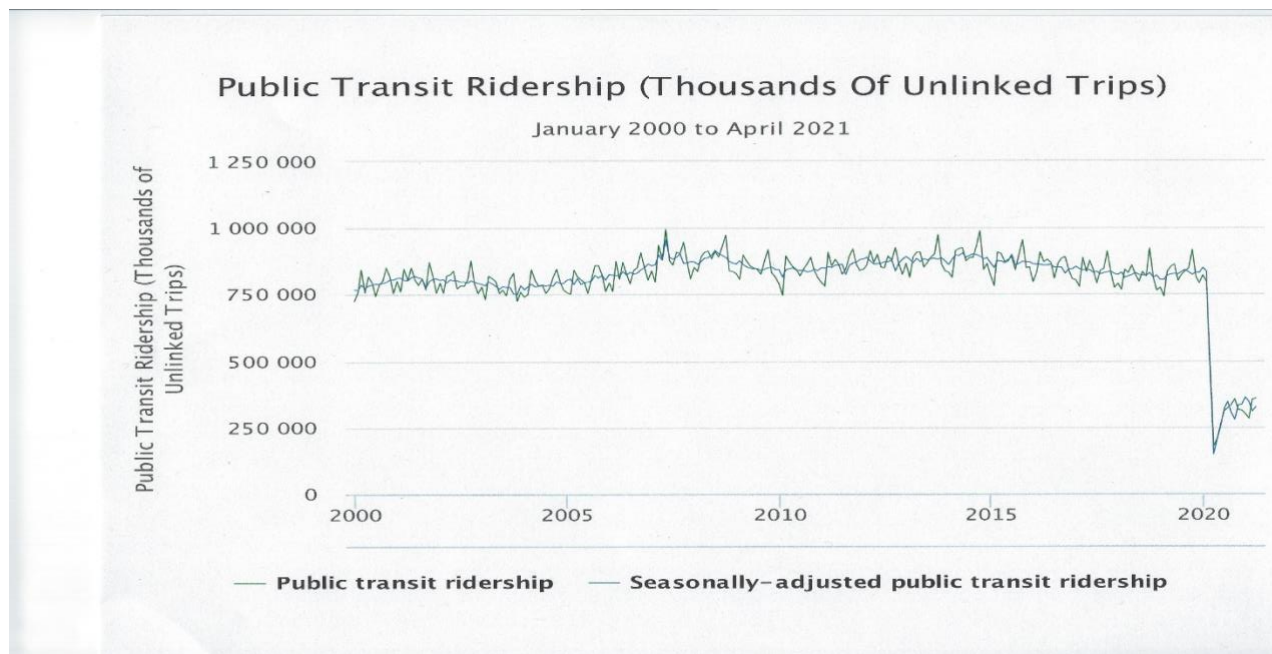
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noted was near morning traffic rush hour. However, there was no similar peak for the evening rush hour. The morning peaks were seen during late fall and winter when building heating systems are kicking on which may account for the peaks.

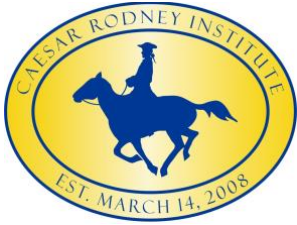
Investing in public transit to switch buses from diesel to low carbon alternatives, and to provide equitable service to low income communities

Public transportation is already widely available. Subways and trains already run on electricity and account for 58% of public transport. Of the 42% of public transport carried on buses 58% has already switched to low CO₂ emission hybrid electric, biodiesel, and compressed natural gas⁵. That leaves only about 18% of the entire public transport fleet to be switched away from diesel fuel. Recent planned federal legislation is set to provide billions of dollars to switch from diesel to electric and other low emissions buses. At the same time public transport does not appear to be recovering from lost ridership from the COVID pandemic. The US Department of Transportation reports as of April, 2021 public transit ridership is still down 58% from the same month in 2019 as shown below, with bus ridership specifically down 50%⁶. It is possible ridership will continue at low levels, and there may be an excess of available transit capacity. The combination of potentially greatly reduced ridership, and likely planned federal investment means no TCI funds will be needed to reduce emissions from public transport.



Providing equitable access to electric vehicles and EV charging stations

TCI strategy states effort will be placed on determining equitable EV charging needs. The US Department of Energy already supplies this information in its Alternative Fuels Data Center⁷. Information on the number of EV charging stations by state, the number of Electric vehicles by state, and an estimate of how many charging stations are needed in each state is available. Every state currently has on average 1.5



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times more EV chargers than needed for the number of vehicles in service. A search on a mobile device will tell you where the closest charging station is located. The National Renewable Energy Laboratory⁸ reports 88% of charging is done at home and 7% at work, so only 5% at public charging stations that operate on average 2% of the time. Electric utilities across the country are already establishing low time of day electric rates for charging overnight. Again, planned federal legislation is set to provide billions of dollars in subsidies for electric vehicles and electric vehicle charging stations both in homes and for public use. TCI funding will be unneeded.

Conclusion

The funds being offered by TCI to provide equitable outcomes for low income communities are duplicative of programs already meeting these needs and are thus unnecessary. How such spending will create positive outcomes including job creation lacks specificity. Higher fuel costs, and its impact on the cost of everything will undeniably impact the poor the most, and will likely overwhelm any questionable benefits of TCI revenue expenditures.

Notes:

- 1) US Environmental Protection Agency, Current Nonattainment Counties for all Criteria Pollutants, [Current Nonattainment Counties for All Criteria Pollutants | Green Book | US EPA](#)
- 2) Caesar Rodney Institute, June, 2020, “COVID-19 Lockdowns Impact on Ozone Pollution”, <https://www.caesarrodney.org/cri-focus-area/COVID-19-Lockdowns-Impact-on-Ozone-Pollution.htm>
- 3) Rhode Island Department of Environmental Management Office of Air Resources, Feb. 2019, “Evaluation of the Impact of On-Road Mobile Source Air Toxics on Air Quality at Sensitive Receptors Adjacent to Interstate Route 95 in the Providence Metropolitan Area”, [RIDEM, Office of Air Resources, Community-Scale Air Toxics Monitoring Grant, Evaluation of the impact of on-road mobile source air toxics on air quality at sensitive receptors adjacent to interstate route 95 in the Providence metropolitan area, final report](#)
- 4) US Environmental Protection Agency, “Quality Assurance Handbook for Air Pollution Measurement Systems Volume II”, Jan. 2017, [United States \(epa.gov\)](#)
- 5) American Public Transit Association, “2020 Public Transportation Fact Book”, [APTA-2020-Fact-Book.pdf](#)
- 6) US Department of Transportation, Bureau of Transportation Statistics, “Monthly Transportation Statistics, [Monthly Transportation Statistics \(bts.gov\)](#)
- 7) US Department of Energy, Alternative Fuels Data Center, [EERE: Alternative Fuels Data Center Home Page \(energy.gov\)](#)
- 8) National Renewable Energy Laboratory, Electric Vehicle Charging Implications for Utility Ratemaking in Colorado, [Electric Vehicle Charging Implications for Utility Ratemaking in Colorado \(nrel.gov\)](#)