



August 19, 2013

DEQ Headquarters  
811 SW Sixth Avenue  
Portland, OR 97204

*Re: Portland Area Transportation Control Measure, Invitation to Comment*

To Whom It May Concern:

OPAL Environmental Justice Oregon wishes to register objections to this Notice of Proposed Rulemaking. Under the current Second Portland Area CO Maintenance Plan (CO Plan), a Transportation Control Measure (TCM) can be revised only upon a showing that the substitute TCM will result in at least as much CO emission reduction as the original TCM.<sup>1</sup> DEQ must also “consider environmental justice issues in deciding whether and how to act,”<sup>2</sup> and all actions taken under DEQ’s air quality program must comply with Title VI of the Civil Rights Act of 1964.<sup>3</sup> The proposed substitute TCM fails on all accounts, and DEQ should remand the rule back to Metro and TriMet for further consideration of alternatives and inclusive engagement with transit equity, public health and environmental justice advocates.

#### **I. Substitute TCM Will Not Reduce CO Emissions as much as the Existing TCM**

Due to an incorrect underlying assumption about the correlation between transit service investments, broadly, and ridership growth,<sup>4</sup> **the existing TCM is not generating the level of CO emission reduction as projected.** By requiring annual 1% increase over a rolling five-year average, the existing rule serves to stimulate some positive increase in annual boardings over and above population growth. Modifying this rule to a ten-year cumulative average will do away with any obligation to further invest in transit and will gut the only “hard” obligation of the existing rule, turning the TCM hollow.

To estimate the CO emission reduction benefits of increasing transit service, both the existing and the proposed substitute TCM rely on the assumption of a constant ratio between boardings (ridership) and revenue service hours. The assumption is that if the total amount of transit service hours is increased by 1%, boardings will also increase by 1%. Neither the existing nor substitute TCM requires any type of mode split; only that the total revenue service hours increase by 1% per year. Moreover, the TCM converts rail service into “bus equivalent hours” by a multiplier of five based on the assumption that the greater square footage capacity of rail yields more riders.<sup>5</sup>

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<sup>1</sup> Second Portland Area CO Maintenance Area, Appendix D9-2, p.31.

<sup>2</sup> ORS 182.545(1).

<sup>3</sup> 42 U.S.C. § 2000(d) et seq.

<sup>4</sup> The TCM incorrectly uses “boardings” – not “originating trips” – to approximate ridership, even though the average number of transfers is approximately 1.3 per trip.

<sup>5</sup> While this weighting seems, at least in retrospect, to be a devastating error in judgment, it is admittedly beyond the scope of DEQ’s current review, but worth noting.

**Yet there is a significant difference between the number of bus boardings and rail boardings per service hour.** From 2003 (the base year used for CO calculation in the TCM) to 2012 (the last year for which audited data is currently available), there was an average of 42.6 boardings per hour of bus service, but only 37.1 boardings per hour of “bus equivalent” rail service. This difference of 5.5 boardings/hour is significant when the total number of annual capacity-weighted service hours is in excess of 2 million.

From 2003 to 2012, bus service hours decreased by 11.4%, while “bus equivalent” (weighted) rail service hours increased by a whopping 49.9%. One would anticipate a significant increase in boardings (ridership) on account of the rail service increase alone, but in fact, ridership has decreased when adjusted for population growth, in part because of the difference in boardings per hour between the two modes. As a result, the CO emission reduction benefit has most likely been far less than projected.

This issue can perhaps best be illustrated by taking a closer look at the change in service over one year, from 2009 to 2010. TriMet increased total (capacity-weighted) service hours by 3.26%, well above what the TCM requires. Breaking down this service increase, one finds that it was exclusively due to a massive increase in MAX service (15.6%), largely due to the opening of the Green Line, while bus service was cut 4.7%. Assuming that bus and rail hours are equivalent, one would predict an increase in ridership (and, therefore, a reduction in CO emissions). Yet ridership actually dropped by 2.3% over this period because the bus service cuts – and the greater corresponding influence on boardings – overwhelmed any ridership increase associated with the new rail service.

By requiring an annual 1% increase based on a rolling five-year average, the existing TCM works to mitigate this otherwise intrinsic error by **not allowing large increases in rail service (with less than projected ridership growth) to permanently distort** the way in which the TCM is assessed and implemented. Contrary to this, by shifting to a ten-year cumulative average, the proposed substitute TCM actually compounds the intrinsic error in the rule by allowing just a few years of capacity-weighted rail service to carry through the entire maintenance plan without the actual CO emissions reduction.

If the TCM required a formulaic mode-split that accounted for differential ridership stimulus and the corresponding CO emission reduction benefit, the proposed substitute TCM could be better justified. But given our recent history of service investments and the perpetuation of the incorrect 1:1 ratio, failing to differentiate between modes, **the proposed rule change will simply mask what can only be portrayed as a service crisis.**<sup>6</sup> Our region currently has less actual (unweighted) fixed route service hours than we did in 2000, and over 10% less than the peak in 2009.

The deep service cuts in FY11 are only a part of this story. True, TriMet badly missed its payroll tax and farebox revenue projections in FY09 and 10, and this forced the agency’s hand in cutting bus service by 8.5% and MAX service by 2.6% in FY11. Yet the overall capacity-weighted change of minus 5% was still a plus 1.23% increase over the previous

<sup>6</sup> See “TCM Scenario,” Appendix 1.

five-year average, keeping the region in compliance. The only reason that the region is currently not in compliance (as of July 1, 2013) is because TriMet has not done enough in FY12 and 13 to compensate for this lost service while losing the ability to mask these losses off of a few years of prior MAX service increases. These were budget surplus years, meaning there was (and still is) sufficient funding to meet the existing TCM, especially given the persistent bus-rail equivalent and capacity weighting.

The reasonableness of the assumptions built into the methodology must be evaluated, based on actual data, when contemplating a substitute TCM. Given the facts, **it stretches the bounds of reason to suggest that the substitute TCM will result in an equivalent CO emission reduction benefit.** Further, the selection of FY08 as the start date of the new proposed ten-year cumulative average is the textbook definition of arbitrary and capricious, as it maximizes the masking influence of the 2008-09 MAX service increases. Were the substitute rule to begin with FY06 or 07, using the same methodology and anticipated service investments, the region would have been out of compliance in all but two years out of the ten-year maintenance plan. No matter how the math is done, the substitute TCM will simply not result in an equivalent amount of CO emission reduction, and is therefore invalid.

## II. The Substitute TCM Violates Environmental Justice Principles

EPA reviewed the Carbon Monoxide (CO) National Ambient Air Quality Standard (NAAQS) in 2011 and, while the agency maintained the standard, EPA's Integrated Science Assessment program concluded that the effects from CO "appear to be highly variable and dependent on localized conditions."<sup>7</sup> EPA also determined that light-duty vehicles resulted in greater CO emissions than heavy-duty vehicles.<sup>8</sup> As a result, EPA now requires near-road CO monitoring for regions with more than 2.5 million residents so as to "protect specific vulnerable populations such as individuals residing near heavily trafficked roads who commute to work on a daily basis."<sup>9</sup>

It is well established that On-Road Mobile (ORM) pollution – namely, the incomplete combustion of carbon-based fuels, primarily from gasoline-powered motor vehicles – is the primary man-made source of CO emissions in the Portland metro region.<sup>10</sup> The Portland region, however, is not subject to EPA's near-road monitoring requirement, and the cost of conducting such monitoring has thus far been deemed prohibitive, precluding actual monitoring data. However, existing data sets raise real concern that low-income communities and communities of color currently experience disparate adverse health risks, namely DEQ's *Portland Air Toxics Solutions* (PATs) study and Texas A&M Transportation Institute's *Annual Urban Mobility Report for Portland*.

<sup>7</sup> Environmental Protection Agency (EPA). *Review of National Ambient Air Quality Standards of Carbon Monoxide*: 40 CFR Parts 50, 53 and 58. Federal Register/Vol. 76, No. 169/ Wednesday, August 31, 2011/ Rules and Regulations, p.24.

<sup>8</sup> *Id.* at 31.

<sup>9</sup> *Id.* at 30-32.

<sup>10</sup> *JPACT Memorandum: Update on Air Quality Transportation Control Measures*. Cotugno, Andy, Metro. May 5, 2004, p.3. See also, *2010 Oregon Air Quality Data Summaries*, Department of Environmental Quality, June 2011, p.50.

According to DEQ's PATS report, **low-income communities and communities of color are disproportionately impacted by higher concentrations of air toxics** compared to mid- to high-income, white communities, both generally across emission sources and specifically from On-Road Mobile emissions.<sup>11</sup> These communities are disparately impacted largely because they live in "hot spots" – in closer proximity to high-traffic roads and are therefore more exposed to on-road-mobile air toxics emissions. Residents of hot spots are disproportionately exposed to a multitude of air toxics, including CO, resulting in potentially significant adverse cumulative impacts. Children and adults suffer "adverse health outcomes, including lung function impairment, asthma incidence, cardiovascular disease and overall increased mortality" due to the constant exposure to CO and other on-road mobile emissions.<sup>12</sup> According to DEQ's own Air Quality Data Summary, CO is linked to increased heart disease and diminished mental capacity even in otherwise healthy adults, and affects newborn and unborn children by resulting in low birth weights and increased infant mortality.<sup>13</sup>

While regional CO emissions have been decreasing, congestion in the metro area has become worse. Portland congestion was 1.07 times the national average in 1982; this grew to 1.29 times the national average by 2007.<sup>14</sup> **This increased congestion correlates to an increase in idling, which results in increased CO emissions.** In 2011, Portland metro ranked as the 17<sup>th</sup> worst region out of 101 urban areas for excess fuel consumption per commuter (the increased fuel consumption due to travel in congested conditions rather than free-flowing conditions), despite being ranked 23<sup>rd</sup> in terms of population. This has correlated with a drastic increase in CO2 emissions per peak auto commuter, moving Portland from the 44<sup>th</sup> worst region in 2002 up to the 18<sup>th</sup> worst out of 101 urban areas in 2011.<sup>15</sup> It is reasonable to infer that CO emissions have increased in localized "hot spots" due to congestion accordingly, and clear that we are losing ground. Moreover, Portland's compact development results in more short trips, which are higher-polluting because the first several minutes of vehicle use (resulting from a "cold start") results in higher emissions while the engine approaches optimal temperature.<sup>16</sup>

Low-income communities and communities of color are more likely to live in lower quality housing with poor indoor air quality.<sup>17</sup> Beyond exposure to air pollution, youth, seniors, low-income residents and communities of color are at a higher risk of related health conditions such as asthma, heart disease and obesity.<sup>18</sup> Oregon ranks among the

<sup>11</sup> *Portland Air Toxics Solutions Report, Section 8.* Department of Environmental Quality. May 2012.

<sup>12</sup> Green M, Hamberg, Main E, Early-Alberts J, Dubuisson N, Douglas JP. *Climate Smart Communities Scenarios Health Impact Assessment.* Oregon Health Authority. April 2013, pp.29-30.

<sup>13</sup> *2010 Oregon Air Quality Data Summaries*, p.50.

<sup>14</sup> Lomax, Tim, and David Schrank. *Annual Urban Mobility Report: Portland.* Texas A&M Transportation Institute (2011). p.17.

<sup>15</sup> *Id.*

<sup>16</sup> McAuley, Timothy, and Margo Pedroso. *Safe Routes to School and Traffic Pollution.* Safe Routes to School National Partnership. American Public Health Association, June 2012.

<sup>17</sup> OHA Climate Smart HIA, pp.29-30.

<sup>18</sup> *Id.* at 12.

top five states in the nation with the highest asthma rate, with children of color and from poor households having an even higher risk of asthma than white children.<sup>19</sup> Heart disease, a primary health impact from CO, is the second leading cause of death within the metro region, affecting people of color, specifically African-Americans, more than the white population.<sup>20</sup>

It is worth noting that these very communities that are disproportionately impacted are those that generally lack the greatest access to transit, whether due to service cuts, lack of infrastructure, lack of coverage or rising fares. The very act of taking public transit meets the Center for Disease Control's recommended daily level of physical activity, leading to positive healthy outcomes. Consistent with virtually every recommendation for the Portland metro area, the Oregon Health Authority concluded in its Health Impact Assessment of Metro's Climate Smart Scenarios that **increasing transit service is a key element in achieving better health outcomes and higher quality of life throughout the region.** Such investments would prevent 182 premature deaths by 2035, comprising 2,834 years of life lost and 933 years of living with physical disabilities.<sup>21</sup> Indeed, the very purpose of the TCM for transit in the CO Maintenance Plan is to promote transit ridership so as to decrease vehicle-miles traveled (VMT) from single-occupancy vehicle use. As discussed above, the substitute TCM is likely to result in less overall transit service, broadly, less overall bus service, specifically, and less access for riders.

Finally, by utilizing the Transportation Policy Advisory Committee (TPAC) as its sole source of "community engagement," Metro and TriMet failed to ensure that those most impacted by this decision – people living in CO/ORM emission hot spots, transit riders and environmental justice representatives – were meaningfully included. TPAC's current roster includes 16 representatives of local, regional and state government, and five "community representatives" (one seat remains vacant). None of these representatives adequately represent the interests of EJ communities or transit-dependent riders. Metro and TriMet reasonably should have known of this lack of inclusive engagement and taken steps to ensure opportunities for meaningful participation throughout.

DEQ is required to consider environmental justice concerns in deciding whether and how to act. In this case, that requires consideration of both the direct and indirect (as well as cumulative) impacts likely to result from the substitute TCM, the failure of regional partners to develop and analyze a set of less impactful alternatives, and the failure of such partners to identify and engage environmental justice and transit rider stakeholders in meaningful participation.

### III. The Substitute TCM Potentially Violates Title VI

DEQ has enough data to raise a reasonable inference that communities of color are disproportionately impacted by CO/ORM emission hot spots. While the lack of sufficient monitoring data and our region's overall improvements in CO emissions may suggest

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<sup>19</sup> *Id.* at 16.

<sup>20</sup> *Id.* at 23.

<sup>21</sup> *Id.*

that there is no adverse health impact, there is enough existing data from DEQ's PATS disparate impact regression analysis, combined with ODOT's analysis of regional congestion points, correlated with demographic data from CLF's Regional Equity Atlas v2.0, to suggest higher concentrations of people of color in CO hot spots to warrant further consideration.

Given this reasonable inference, it is necessary to examine whether there is a substantial legitimate government justification for taking the discriminatory action. As discussed above, while the FY11 service change may have been unanticipated, the failure to compensate for the service cuts in surplus years FY12 and 13 show that the underlying justification is not legitimate. Moreover, neither Metro nor TriMet have exhausted the range of options to determine whether there is a less impactful alternative. Options include, but are not limited to, simply making the necessary service investments to meet the minimal existing TCM, to a different method of computing the annual service increase obligation, to a complete restructuring of the underlying methodology to fully capture the projected ridership gains from bus service increases.

Adopting the substitute TCM will potentially violate both the EPA and FTA's Title VI disparate impact regulations. **Such liability exposure would jeopardize federal funding far more than any potential non-compliance with the existing TCM**, and as such, Title VI compliance should be treated far more seriously during this rulemaking process. Compliance with the CO NAAQS should not be used as a shield to tacitly approve localized disparate impacts on the ground.

#### IV. DEQ Should Utilize its Broad Discretion to Modify or Remand the Rule

DEQ has substantial discretion under its State Implementation Plan pursuant to the CAA and under its obligations pursuant to ORS 182.545(1) to take action consistent with maximal protection of human health and the environment and full environmental justice and Civil Rights considerations. DEQ should either modify the proposed rule to ensure that the region receives the anticipated CO emission reduction benefits, facilitate a negotiated rulemaking with regional partners and EJ and Civil Rights stakeholders, or remand the rule to Metro and TriMet for further analysis and inclusive engagement and deliberation.

Sincerely,  
/s/ Jonathan Ostar  
Jonathan Ostar, Executive Director