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STAFF REPORT

Date: May 15, 2019

To: TRPA Regional Plan Implementation Committee

From: TRPA Staff

Subject: Review of Vehicle Miles Travelled Threshold Standard and Air Quality Mitigation Fee

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Summary and Staff Recommendation:
Staff recommends that the RPIC direct staff to work with partners to develop new metrics to address the concerns for which the 1982 Vehicle Miles Traveled (VMT) threshold standard is now used as a surrogate, specifically congestion and greenhouse gas (GHG) emissions.

Required Motion:
In order to recommend approval of the requested action, the Regional Plan Implementation Committee must make the following motion based on the staff summary:

1) A motion to direct staff to prepare a work plan for the Regional Plan Implementation Committee to lead the development of new metric standards to directly address VMT-related concerns, an appropriate interim VMT threshold approach, and an update of the Air Quality Mitigation Fee.

Background:
The VMT threshold standard was established in 1982 to improve water quality by reducing deposition from in-basin NOx emissions from mobile sources (e.g., cars and trucks). Nitrogen emissions from mobile sources in the Region have declined more than 66% since the standard was adopted, far in exceedance of the standard's goals. Regional NOx emissions have been steadily decreasing since 1989 and reductions far exceed the 10% reduction initially envisioned by the standard. Empirical observations over the last 30 years of the relationship between in-region nitrogen emissions and atmospheric deposition establish:

- Current in-basin NO_x emissions from mobile sources are substantially below 1981 levels.
- A 14-fold increase in VMT from 1981 levels would be required to equal the 1981 NOx emissions levels.
- The goal established by the VMT standard, a 10% reduction in NOx emissions from in-basin mobile source, was likely achieved more than 15 years ago.
- NO_x emissions are likely to continue to decline even further as a result of increasingly strict tailpipe emissions standards.
- Nitrogen emissions from mobile sources in the Region have declined by approximately 66%, far in exceedance of the standard's goals. Despite this decline, no significant change in atmospheric deposition of nitrogen has been observed.

Moreover, understanding of the drivers of clarity loss has improved significantly since the standard was adopted in 1982. The motivating concern at the time was algal growth in the lake, supported by atmospheric deposition of nitrogen. The following key points have been determined since 1982:

- Scientific research to support the Tahoe Total Maximum Daily Load (TMDL), the science-based framework to restore the historic clarity of the lake, demonstrated that clarity loss is primarily driven by fine sediment particle (FSP) accumulation.
- TMDL implementation focuses on reduction of FSP load
- The TMDL scientific research found that excess algal growth is responsible for roughly a third of clarity loss.
- Preliminary TMDL scientific research suggested that VMT reduction was unlikely to be a cost-effective strategy to reduce nitrogen loading and, thus, algal growth.

The declines in NO_x emissions from mobile sources means that functionally the VMT standard no longer provides additive water quality benefits to the load reduction targets established by Air Quality standard 13 (VMT) and Water Quality standards 36 and 41, which directly address nitrogen from all sources.

While reduction of regional NOx emissions is no longer a water quality concern, VMT is still frequently mentioned as a concern in the region. VMT is often invoked as a surrogate for a suite of issues including congestion on roadways, crowding at popular destinations, poor road conditions, safety, climate change, limited travel options, and short-term rentals. VMT is sometimes related to the referenced concerns, but the relationships are generally complex and not as relatable as some assume. For example, while increasing VMT can increase congestion, increased congestion can decrease VMT as people choose not to drive because of the increased travel times. The use of VMT as a surrogate for the concern can also confound identification of appropriate solutions. For example, reducing out-of-basin commuting may reduce VMT, but would do nothing to reduce congestion on a busy weekend.

Addressing the challenges and concerns of today starts with identification of the issues of concern and then closely tailoring appropriate measures to quantify their magnitude. While it may seem more expedient to simply repurpose an available measure, rather than trying to truly measure the real concern, this approach is unlikely to lead to lasting solutions to the real challenges. To address these challenges, staff recommends that RPIC direct staff to work on identification of performance measures and targets related to two issues most often cited as key areas of concern: GHG emissions and congestion. Each are discussed in additional detail below. Further, as part of the identification of these performance measures and targets, staff recommends that RPIC direct staff to review and possibly update the key mitigation measure associated with vehicle travel, the air quality mitigation fee. The air quality mitigation fee is also discussed in more detail, below.

Greenhouse Gas Emissions

Calculation of GHG emissions from automobile transportation is based on estimates of VMT and CO_2 emissions per mile. Reduction of VMT is a key component of the "Sustainable Communities Strategy" required by California Senate Bill 375. Mobile sources account for 29% of the regional emissions. The single largest source is energy generation (41%) and use in buildings accounts for an additional 21% of regional emissions. Staff propose to take a more comprehensive look at GHG reduction strategies to identify opportunities to reduce GHG from all sources. This would place the Region's VMT reduction

strategies alongside the broader suite of strategies to reduce GHG (e.g., promoting solar power and providing more electric vehicle charging stations).

Congestion

In the current public discourse, VMT is most often invoked with respect to regional automobile congestion. As described above, VMT is a poor surrogate for congestion, because it often fails to measure the appropriate phenomena and can respond differently to management intervention. The Bi-State Compact directs TRPA to implement a transportation plan that will "reduce dependency on the automobile by making more effective use of existing transportation modes and of public transit to move people and goods within the region." Managing and preventing congestion in this context is not about expanding roadway capacity (which is also known to increase VMT) but about providing alternative modes and demand management.

Air Quality Mitigation Fee

TRPA's Code Section 65.2 requires that all new projects and changes in operation contribute to the Air Quality Mitigation Fund to offset regional and cumulative air quality impacts. Currently, air quality mitigation fees are tied to vehicle trips and are levied at the following rates:

a. For new residential units - $325.84/daily vehicle trip.
b. For new tourist accommodation units - $325.84/daily vehicle trip.
c. For new campground site or recreational vehicle site - $325.84/daily vehicle trip.
d. For new commercial floor area - $36.20/daily vehicle trip.
e. For all other development - $36.20/daily vehicle trip.

While the fee is higher for residential and tourist uses (trip generators) than it is for commercial and recreation uses (trip attractors), there is currently no tie between the fee and the trip length – i.e., all residential and tourist trips are assumed to have the same impact, and all commercial and recreation trips are assumed to have the same impact. In reality this is not the case – longer trips will have a greater impact on greenhouse gas emissions, for instance, than will shorter trips. Structured this way, the fee does little to encourage locally serving uses which are likely to attract shorter trips over a use located far from a town center which might attract much longer trips.

Staff propose to review the air quality mitigation fee in the context of the new metrics for greenhouse gas emissions and congestion, as well as incorporate updates to the fee necessary to maintain consistency with the costs of infrastructure improvements identified in the most current version of the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

Upon direction from the committee, staff will further develop the concepts in this staff summary and outline the process in more detail, including a public input plan. The plan will include bringing to the committee for review best practices and ultimately development of policy for incorporation in the Regional Plan and code. The plan will also address how TRPA should approach the VMT threshold pending development of the metrics discussed above and integration of review and update of the Air Quality Mitigation fee.

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