



January 2, 2014

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Tahoe Transportation District
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Tahoe Regional Planning Agency
P.O. Box 5310
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Subject: Comments on Notice of Intent/Notice of Preparation (NOI/NOP) for Lake Tahoe Passenger Ferry Project

Dear Mr. Matley, Mr. Knotts, and Mr. Judge,

The Friends of the West Shore (FOWS) and the Tahoe Area Sierra Club (TASC) appreciate the opportunity to provide comments on the NOI/NOP for the proposed Lake Tahoe Passenger Ferry Project. We remain concerned that what began as an idea stemming from a time when vehicles were far more polluting (e.g. TRPA's Compact was adopted in 1969, amended in 1980), and based on solar-powered ferries (or other fueled vehicles which do not rely heavily on polluting fuels) that may have provided air quality benefits has now been modified to instead support a heavily-polluting and expensive venture that will only harm Tahoe's environment. We remind the agencies that the TRPA Compact called for *reducing* air pollution and dependency on the private automobile – but it did not say the latter should trump the former. Further, it appears the ferry service, which likely boasts extensive operating and maintenance costs, could also rely on taxpayer support for ongoing operations and maintenance (including funding for ongoing mitigation).

FOWS and TASC request that the air quality impacts be analyzed and compared to other transit options based on the emissions per person per mile (EPPPM). Water quality impacts should be examined similarly. In addition, we request the reconsideration of alternatives which do not rely on the gas-powered ferries, as well as alternatives which consider the RTP's plans to expand public transit options on Tahoe's roadways. We feel the assumption under the 'no action' alternative that there will be no change in other services is incorrect given the other transit plans outlined by the RTP. Finally, we request the analysis carefully examine the true ridership, by season, as well as the extent of 'deferred' vehicle trips compared to new trips or recreational ridership. Although presented as a means to reduce dependency on automobiles, the funding requirements for the MAP-21 "New Starts" program include a minimum 10% increase in capacity – suggesting the ferry project will merely add transportation capacity, not detract from existing vehicle trips.

Impacts from projects associated with the ferry service, including but not limited to new parking areas, trucked-in gasoline, pier expansions, dredging, the spread of aquatic invasive species (e.g. milfoil), and the cumulative impacts with adjacent projects, must be thoroughly examined in the environmental document.

Detailed comments are provided below. Please feel free to contact Jennifer Quashnick at jqtahoe@sbcglobal.net or Laurel Ames at laurel@watershednetwork.org if you have any questions.

Sincerely,

Laurel Ames,
Conservation Co-Chair,
Tahoe Area Sierra Club

Susan Gearhart,
President,
Friends of the West Shore

Jennifer Quashnick
Conservation Consultant

Project Overview and Location:

Project Location: The project consists of a cross-lake ferry service with a South Shore Ferry Terminal at the Ski Run Marina in South Lake Tahoe, El Dorado County, California, and a North Shore Ferry Terminal at the Grove Street Pier just west of the Tahoe City Marina in Tahoe City, Placer County, California. The project area encompasses the proposed ferry route on Lake Tahoe, the two ferry terminals, and a vessel assembly and maintenance location using existing facilities at the Tahoe Keys Marina in South Lake Tahoe. Additional north shore terminal locations may be considered if an initial assessment determines those locations to be adequate for operations. (NOI/NOP, p. 1)

The DEIS/DEIR/DEIS must analyze the foreseeable impacts of adding a third location in the future. When will an ‘initial assessment’ be performed? Who will perform this assessment and how will the public be engaged?

The service is proposed to operate year-round and on a fixed schedule. Additionally, the service would coordinate with existing local transit services on the north and south shore. (p. 1)

How will the ongoing operations and maintenance be funded? What are the economics of this project during Tahoe’s shoulder seasons? Will passengers be expected to pay for these ongoing costs? How will costs be offset during periods where there will be less ridership? The DEIS/DEIR/DEIS must answer these questions, and identify what the potential costs to taxpayers will be for this project and the reality of whether future costs, including mitigation, will be funded.

Implementation of the project would assist in achieving local, state, regional, and federal environmental and transportation goals by reducing dependency on the private automobile and environmental impacts associated with automobile use. (p. 1)

...Tahoe Metropolitan Planning Organization’s *Mobility 2035: Regional Transportation Plan (RTP)*, which includes a suite of projects and transportation initiatives intended to improve mobility in the Region, assist in controlling greenhouse gas (GHG) and air pollutant emissions, and meet the environmental threshold carrying capacities established by TRPA Compact. Goal 4.6 of the RTP requires the consideration of waterborne transit systems in coordination with other public and private transportation systems to minimize air and water quality impacts as an alternative to automobile travel within the Region. (p. 1-2)

As noted in our comments on the environmental impacts (and evaluating the emissions per person per mile), although the transportation plan may identify this ferry service, due to major improvements in vehicle technology, there is no guaranteed air or water quality benefit from this service. The TRPA Compact’s mandate included two requirements related to transportation planning and air quality:

- (2) A transportation plan for the integrated development of a regional system of transportation, including but not limited to parkways, highways, transportation facilities, transit routes, waterways, navigation facilities, public transportation facilities, bicycle facilities, and appurtenant terminals and facilities for the movement of people and goods within the region. The goal of transportation planning shall be:
 - (A) To 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; and
 - (B) To reduce to the extent of feasible air pollution which is caused by motor vehicles.

Where increases in capacity are required, the agency shall give preference to providing such capacity through public transportation and public programs and projects related to

transportation. The agency shall review and consider all existing transportation plans in preparing its regional transportation plan pursuant to this paragraph.

The Compact also requires the strictest air quality standards are met:

Article V(d): The regional plan shall provide for attaining and maintaining Federal, State, or local air and water quality standards, whichever are strictest, in the respective portions of the region for which the standards are applicable.

Although on-road motor vehicles were far more polluting in 1980 when the Compact was last amended, off-road motorized vehicles have not been ‘cleaned up’ as much. The proposed ferries are motorized vehicles – therefore increasing air pollution by the addition of the ferry project runs counter to the Compact’s requirements. Further, as identified in our comments on the draft RPU/RTP environmental documents in June 2012¹, the most recent CARB emissions inventory for Tahoe (2008) indicates that off-road mobile sources (e.g. boats) are emitting more NO_x and VOCs (precursors to ozone formation) than on-road motor vehicles. This is bad enough, but the RPU/RTP EIS and EIR/S documents include a rough ‘estimate’ of 2025 emissions from the ferries, which show significantly high amounts of emissions coming from the ferry service. Had the analysis been conducted separately, as it now should be, the increased air emissions should trigger major mitigation measures or outright consideration of new alternatives. (See comments below regarding the reliance on TRPA’s RPU/RTP documents for ‘analysis’).

Emissions Per Person Per Mile (EPPPM):

We have requested the TRPA use this metric to assess the air quality impacts of various modes of travel for several years. The idea is to examine how many emissions are attributable to one person for each mile they travel. This allows planners to assess which form of transportation emits the fewest harmful air emissions.

For example, the proposed project will run 18 miles across the Lake (NOI/NOP p. 3). Using hypothetical emission numbers, this type of analysis might look like:

Off-road Motorized Ferry (boat):

One ferry emits 50 pounds of NO_x and 10 pounds of VOCs per mile:

Assuming full ridership is 1600 (best case for EPPPM), we divide these emissions by 1,600 to obtain the EPPPM for the ferry:

$$\begin{aligned} 50 \text{ lbs NO}_x / 1,600 \text{ passengers} &= 0.031 \text{ EPPPM of NO}_x \\ 10 \text{ lbs VOCs} / 1,600 \text{ passengers} &= 0.0063 \text{ EPPPM of VOCs} \end{aligned}$$

At half ridership (800 passengers), the EPPPM for each passenger doubles, because the ferries will generally emit the same emissions regardless of the number of passengers.

$$50 \text{ lbs NO}_x / 800 \text{ passengers} = 0.062 \text{ EPPPM of NO}_x$$

¹ www.trpa.org/wp-content/uploads/Volume_2_RPU_FEIS.pdf

10 lbs VOCs/800 passengers = 0.0125 EPPPM of VOCs

On-road motorized vehicle:

Again, using a hypothetical number, say the average vehicle emits 0.005 pound NOx and 0.001 pound VOCs per mile.

TRPA estimates between 2-3 passengers/vehicle, on average. Using 2 passengers per vehicle (best case), the EPPPM would be:

0.005 lbs NOx/2 passengers = 0.0025 EPPPM of NOx
 0.001 lbs VOCs/2 passengers = 0.0005 EPPPM of VOCs

Assuming one person drove this vehicle (worst case):

0.005 lbs NOx/1 passenger = 0.005EPPPM of NOx
 0.001 lbs VOCs/1 passenger = 0.001 EPPPM of VOCs

Thus, we'd have a direct comparison of which method of travel produces fewer emissions.

Table 1: HYPOTHETICAL Evaluation of EPPPM by Transit Type				
	Best Case (more passengers/vehicle)		Worst case (fewer passengers per vehicle)	
	<i>NOx</i>	<i>VOCs</i>	<i>NOx</i>	<i>VOCs</i>
Ferry	0.031	0.0063	0.062	0.0125
On-road MV	0.0025	0.005	0.005	0.001

In this example, considering the worst case for both vehicles, the passenger driving the on-road motor vehicle would generate 92% fewer emissions per mile of travel than if the passenger used the ferry. Again, this analysis is purely hypothetical, however indicative of how the EIS/EIR/EIS needs to analyze alternative travel options to assess the air quality impacts or benefits of each option.

This example shows that while a project may reduce dependency on the private automobile, it can not be assumed the project will also improve air and water quality if the alternative to the private automobile actually creates more pollution per person per mile (EPPPM). Further, the CO2 emissions in 2025 estimated by the CARB model show a net increase in CO2 compared to 2004. This certainly begs the question of Tahoe's commitment to reducing GHG emissions – the RPU EIS and RTP EIR/S documents conclude a net increase in GHGs as “significant and unavoidable,” recent large-scale project documents approved by TRPA conclude net increases in GHGs (e.g. Homewood Mountain Resort EIR/S²), and it appears the proposed ferry project will also significantly increase GHGs. The DEIS/DEIR/DEIS needs to assess the cumulative GHG emissions associated with current and reasonably foreseeable projects.

² www.trpa.org/wp-content/uploads/19_HMR_Climate_Change_FEIR_EIS.pdf

Reliability of Service in Inclement Weather

The Lake Tahoe Region has seven points of entry, all served by state or federal highways. Access around the Lake is also provided by state or federal highways with much of the route limited to two-lane roadways with changing and often steep grades. During summer and winter months, heavy traffic congestion and rugged mountain terrain can make traveling around the Lake slow and difficult, particularly driving between the north and south shores on the narrow, winding highways. During the winter season, traveling these routes can be especially hazardous as a result of snow and ice on the roadways. Routes can also be restricted in winter to vehicles with only four wheel drive or closed all together due to avalanche control. Development of the Lake Tahoe Passenger Ferry Project would help reduce regional automobile travel, alleviate roadway congestion, and provide a safe, convenient, and affordable alternative for traveling between the north and south shores of Lake Tahoe. (p. 3)

The DEIS/DEIR/DEIS must evaluate existing travel and weather conditions, including how often the routes are closed and/or require chains. The DEIS/DEIR/DEIS must evaluate the trips that will not be taken if the ferry service is offered. Other factors affecting these parameters which the DEIS/DEIR/DEIS must evaluate include but are not limited to:

- How weather may affect or impede the ferry service;
- If the ferry service is stopped for weather or another reason, what alternative options will riders have to return to their starting destinations?
- What are the ‘draws’ for ferry riders at each point? Does the ferry aim to target skiers and snowboarders? If so, what transit services will be available to reach the resorts on either end of Lake Tahoe? How does this compare to existing and planned transit services? How do the costs for potential ferry riders compare versus driving or using public transit/ski shuttles?
- Will the ferry aim to draw those commuting to work? What are the likely employment opportunities that will draw commuters? How many vehicles currently commute from North to South Shore and vice versa?

Purpose:

The purpose of the Lake Tahoe Passenger Ferry Project is to support regional goals and planning mandates by: providing a multi-modal transportation alternative and promoting smart growth; enhancing transportation and regional mobility with a safe, reliable, year-round transit service between the north and south shores; controlling vehicle miles traveled and GHG emissions; improving and maintaining air and water quality; and promoting livability and connectivity within the Tahoe Region. (p. 3)

First, we disagree with the purpose with respect to its failure to identify a net improvement in air and water quality. As worded, the ‘purpose’ could be met by a project which increases air and water pollution in Lake Tahoe (by itself and when compared to passengers using their own private vehicles). Further, the selected purpose actually excludes from consideration alternatives that would aim to create net air and water benefits. The purpose and criteria (see comments below) must be revised to include a net improvement in air and water quality over use of the private automobile or other common transit options.

Even with the purpose lacking what should be the key intent (environmental improvement), it is unclear that the ferry project would meet the stated purpose. The

DEIS/DEIR/DEIS must evaluate the impacts to housing and growth. Will the ferry service result in more concentrated housing being constructed in Tahoe City to support those who work in South Lake Tahoe, for example? The NOI/NOP claims the Ferry will provide significant benefits for jobs and housing, but instead, it appears it may simply provide another transit alternative for those who would otherwise commute and/or a new recreational opportunity for visitors, and therefore the DEIS/DEIR/DEIS must analyze the true ridership demographics anticipated.

Will the ferry service truly provide a reliable year round transit service? We refer to our questions regarding costs.

The DEIS/DEIR/DEIS must analyze the VMT that will not be driven due to the ferry service. How many people will use the ferry service as a form of recreation versus how many will commute? Those recreating may not have otherwise driven, thus the extent to which the Ferry will defer VMT/vehicle trips questionable.

As the purpose includes 'controlling' GHG emissions and improving air and water quality, we refer to our comments regarding the environmental impacts of this service, especially when compared to passenger vehicles.

Assessment of 'deferred' VMT and Vehicle Trips from Ferry Service:

Over 90 percent of overnight visitors access the Tahoe Region through the use of a private or rented automobile. A ferry service connection between the north and south shores would provide the basis to create a distribution system for auto trips entering the Region. p. 3

This suggests the ferry service merely aims to reduce VMT from visitors once they enter the Basin. Thus, the VMT from visitors driving into and out of the Basin will not be affected or reduced. Therefore, the DEIS/DEIR/DEIS must analyze how many visitors versus residents will use the ferry service? For example, if 75% of riders will be visitors, then far less VMT will be reduced compared to 75% ridership by locals who may walk or ride to the ferry stops.

Smart Growth Principles. The Lake Tahoe Passenger Ferry Project supports smart growth planning principles in the Region by focusing transportation improvements between the north and south shore with an alternative to the automobile and increased regional travel capacity. These improvements will allow for transportation and land use decisions at either end of the Lake to be made in context of the entire Tahoe Region and its rural, alpine setting. The proposed ferry service maximizes the connectivity of the transportation system to proposed developments in urban centers, while minimizing the impacts to surrounding communities and natural resources. (p. 3) [Emphasis added].

As the communities around the Lake Tahoe Basin are each unique in their own way, it is unclear what is intended by the statement underlined above. Further, this appears to inflate the role of the potential transportation provided by the ferries. The NOI/NOP notes up to 1,600 to 1,800 passengers/day. Chances are there will be far fewer passengers during the shoulder seasons. However, even using the unlikely assumption of full capacity per day, and the common assumption of 2.5 passengers/vehicle in the Tahoe Basin, this represents a diversion of roughly 720 vehicle trips if the ferries are fully occupied. How does this compare to the number of vehicle trips in the entire Basin? Does this reflect 1%, 5%, 20%, etc., of the regional travel? How does this compare by season?

For example, the deflected vehicle trips during November or May will likely be far less than the number of trips reduced during peak seasons (e.g. August, February).

Travel Time:

Time Travel Savings. The Lake Tahoe Passenger Ferry Project would provide travel-time savings over existing seasonal transit service between the north and south shore and, more importantly, over the existing travel time of private vehicles using highways on either side of the Lake. Preliminary planning indicates that the proposed ferry service could be 18 miles in length and take approximately 20 to 25 minutes. This is a substantial travel-time savings over private vehicles trips, which are 32 to 39 miles in length, depending on the route, and can take 60 to 90 minutes or potentially more, depending on the season, weather conditions, and time of day. Overall, the advantage of the passenger ferry transit connection is that it provides both a travel-time savings and a more reliable trip time, while being attractive to both residents and visitors. (p. 4)

The estimated time savings does not consider the increased time that may be needed at each end of the ferry ride. Depending on the destination of passengers, additional public transit may be needed to reach their final destination. This again reiterates the need for the DEIS/DEIR/DEIS to evaluate the demographics of passengers, their destinations, times of travel, etc. **The fewer passengers using the ferries, the more pollution generated (in EPPPM), and passengers who opt to drive their own vehicles will still create those emissions as well – in addition to the ferry’s emissions.**

For example, passengers interested in skiing at Alpine Meadows may drive there from South Lake Tahoe in roughly one hour during the winter months. Estimated times are rough and provided merely for representative purposes. The DEIS/DEIR/DEIS must fully evaluate the alternative transportation options in light of a full trip.

- Alternatively, it may take them fifteen minutes to drive, park³ and walk to ride the ferry (15 minutes), especially if carrying ski/board gear. Those using public transportation from their doorstep may find it takes far more than fifteen minutes.
- Once there, assuming the ferries departed *at exactly the right time* for their arrival,⁴ consider boarding time for 150 passengers/ferry to be a few minutes (5 minutes).
- The ferry ride is estimated to be 25 minutes.
- A few more minutes to depart (5 minutes), and now the passengers must take public transit to Alpine Meadows. Assuming it was readily available and departed *at exactly the right time*, this could represent another fifteen minutes or longer to get to Alpine Meadows (15 minutes).

In sum, the ferry trip could take 65 minutes or longer (likely because the scheduled routes would likely not always be at *exactly the right time* for each passenger. Although the time may or may not be notably different, what about the hassle of parking, carrying gear to and on the ferry, departing, carrying gear to more transit to Alpine, etc.? On a cold winter

³ As the NOI/NOP states parking arrangements will be determined later, it is unclear where people may park to use the ferry. Given the limited parking space at Ski Run Marina and Tahoe City Marina, it is possible parking may be several minutes' walk from the ferry terminal.

⁴ The ferry schedule is unknown, however, the service will not be continuous, thus passengers will be required to adhere to scheduled trips they may have to wait for at the terminal.

morning, will people be interested in this option when they have cars they can get in and then drive straight to Alpine Meadows?

In the summer months, a vehicle trip from South Lake Tahoe to Tahoe City may take 45 minutes. Alternatively, a ride on the ferry could take close to an hour. Again, this is another example of the information which must be evaluated in the DEIS/DEIR/DEIS to assess the true commute times among the ferry and other options, as this will affect the level of ridership of the ferries.

The passenger ferry transit connection opens up a cross-lake trip opportunity for these non-motorized modes, and allows public as well as private shuttle companies to support these trips as necessary based on demand and the destination wishes of the traveler. Both proposed north and south shore locations are served by existing bicycle and pedestrian facilities that would facilitate these non-motorized connections. (p. 4)

What is the anticipated ridership among non-motorized travelers? Will this merely open up more recreational opportunities, or will the ferry aim to capture commuters? How many people are likely to commute via bicycle or walking in the winter months compared to summer months?

The Lake Tahoe Passenger Ferry Project provides the cross-lake transit service needed by the transit dependent population and allows both public and private transit companies to support these trips with local connections, as necessary. (Mobility, p. 4)

...The proposed project would also better connect the economies of the north and south shores of Lake Tahoe, and would expand local job markets and allow for a more diversified workforce. (Livability, p. 5)

...*Direct Connection to Housing Choices.* While visitors traveling into and throughout the Tahoe Region make up the majority of trips annually, residents who live and/or work in the Region create another important source of travel demand. A regional priority is to improve housing choices within the proposed redevelopment areas of the Tahoe Region community centers. Residents in these communities would benefit both from easier pedestrian and bicycle access to amenities and also the regional transit accessibility provided by the proposed project.

It appears the project aims to make it easier for people to commute, and/or to decide to live in one location and work in the other. Once people come to rely on this transit option, what changes can be made? For example, will there be requirements that the ferries will always provide the same level of service/same number of trips per day? Will fares be kept below a certain amount so commuters can always afford to ride? In other words, if the project aims to encourage people to expand their employment locations, and then the ferry service becomes too expensive, or does not provide the necessary schedule in the future, the passengers relying on it for commuting will likely have to resort to driving (if they have a vehicle). Given the extensive cost of this service (including 2,000 gallons of gas/day), the reliability of this option in the future is certainly questionable. For example, public transit in South Lake Tahoe alone has been changed several times over the past ten years, including schedule changes, service reductions, etc. Thus, it is reasonable for the DEIS/DEIR/DEIS to address the issue of long term service, reliability, and affordability.

Further, the proposed ferry will rely on two private marinas (p. 8). How will passengers be assured the private marinas will not begin to make changes to the service, infrastructure, etc., in the future, which may discourage ridership of the ferries?

Air and Water Quality:

Air and Water Quality. The TRPA Regional Plan update process (completed with the adoption of the Regional Plan by the TRPA Governing Board on December 12, 2012) identified the following important topics related to maintaining or improving air and water quality: (1) visibility or clarity, (2) impact on human health, (3) impact on ecosystem health, (4) reduction of emissions, and (5) restore and then maintain water quality. Each of these goals has an important item in common: to reduce pollutant emissions within the Tahoe Region. Increasing use of public transit was identified as one important way to achieve this goal and to contribute to achievement of TRPA environmental thresholds. Pollutants from cars and the roadway contribute particles directly into Lake Tahoe via road dust and direct deposition. With the implementation of a proposed cross-lake ferry service, a reduction in auto trips, vehicle miles traveled (VMT), and attendant emissions are feasible. (p. 5)

The DEIS/DEIR/DEIS must examine the emissions per person per mile (EPPPM) for passengers compared to driving. According to the RPU/RTP EIR/S documents, the ferry service will add significantly more air pollution to the Basin, not less (RTP EIS Appendix D, AQ & GHG, p. 250). The same is likely for water pollution. We note the NOI/NOP statements are careful to never suggest the ferry service will actually reduce the net air and water emissions in the Lake Tahoe Air Basin (LTAB), nor compared to passengers driving. It may be true that some auto trips and VMT will be reduced, and the ‘attendant’ emissions associated with those particular trips would be reduced, but the ferries may generate a net increase in emissions that is likely to far outweigh any reductions from the diversion of a portion of auto trips/VMT.

Greenhouse Gas Emissions. In 2012, the California Air Resource Board assigned per capita GHG reduction goals for the Tahoe Region, in compliance with state law (SB 375, Statutes of 2008). Mobile sources are an important target for per capita GHG reduction. A cross-lake passenger ferry and an interconnected, regional transit system would help reduce vehicle trips and, therefore, contribute to this goal. (p. 5)

The DEIS/DEIR/DEIS must carefully analyze the GHG emissions from the ferry service, including the EPPM compared to private vehicle use. This is also necessary to complete the assessment of the per capita GHG emissions associated with each transportation option. Based on the NOI/NOP, and the RTP EIR/S, it appears the EPPPM and per capita GHG emissions from the ferry service will be significantly greater than for those using personal vehicles, thus the project would not contribute to the targeted GHG reduction, but in fact increase it.

The NOI/NOP refers to the RTP EIR/S ‘assessment’ of AQ impacts from the ferry service. However, the assessment in the RTP EIR/S was merely a ‘rough’ run of a very basic CARB model;⁵ as the RTP EIR/S noted, the project’s environmental review would analyze the impacts based on specific project information.

⁵ “Emissions associated with waterborne transit vehicles were estimated using the ARB’s California Commercial Harbor Craft Emissions Inventory database tool (ARB 2012b).” (RTP EIR/S p. 2.4-21)

As a result of the Federal Transit Administration (FTA) “North-South Transit Connections Alternatives Analysis” conducted by FTA and the Tahoe Transportation District (TTD) to date, the concept of the project and potential alternatives are known, but the specific project operational details are yet to be determined. For instance, the specific terminal locations, vessel routes, operating plan, selection of vessels, and maintenance approach would be determined during the environmental review of project alternatives during project-level review. The concept of the project would involve operation of a daily schedule of ferry service between North Shore and South Shore, likely using three or four watercraft. The ferry service would transport people and bicycles, but not automobiles, and would cross the Lake several times per day. Potential terminal locations include, but may not be limited to, Tahoe City, Kings Beach, and Ski Run/South Lake Tahoe. A maintenance facility is also needed for the project and it may include a new maintenance pier in the shorezone and maintenance building in the shoreland. (RTP EIR/S page. 3.4-39). [Emphasis added].

The DEIS/DEIR/DEIS must specifically analyze the emissions associated with the proposed ferries and the engines that will be used, the anticipated routes, and look at the local impacts of emissions. *The significance of impacts should be based on the ferry project impacts alone; in other words, claiming the emissions have no impact because they might ‘fit into’ the emissions noted in the RTP EIR/S will not serve to evaluate the impacts of the proposed project.*

For example, what will the emissions be in the vicinity of the Ski Run Marina with the ferries each making ten trips per day? Will idling restrictions be placed on the ferries? Further, the RTP analysis only reported the forecasted emissions for the Placer and El Dorado County portions of Lake Tahoe in 2025. However, the project is planned for implementation in 2015. What will the emissions be from the ferries that will be used prior to 2025? Further, what is the typical life of an engine in these types of vessels? Will new engines be installed in 2025? A review of CARB’s information regarding ferry vessels suggests engine lives tend to run 20 to 30 years or longer. The NOI/NOP states “Vessels are anticipated to have a lifespan of 25 years” (p. 11). If a ferry is built in 2014 or 2015, the emissions from the ferries will likely exceed the anticipated 2025 values (which rely on another ten years of improved technology). Unless the operators intend to purchase new engines ten years after implementation, the emissions estimates need to reflect what the actual emissions will be.

The proposed ferry vessels would be catamarans (a vessel with two parallel hulls; a hull is the body of a vessel) with a passenger capacity of up to 150 persons. The specific manufacturer is not known at this time. The proposed service speed for the vessels would be 37 knots or 43 miles per hour (mph). Fuel consumption is estimated at approximately 2,000 gallons per day. The passenger ferry, *Rich Passage I*, is a vessel used for ferry service between Seattle and Bremerton in Washington. It is representative of the type of vessel that is being proposed for use as part of the Lake Tahoe Passenger Ferry Project. (p. 9) [Emphasis added].

What will the size, engine time, fuel efficiency, fuel type, emissions (air, water, and noise) be associated with the vessels? The estimated 2,000 gallons of gas per day is a substantial amount, whether diesel or regular gasoline. The DEIS/DEIR/DEIS must evaluate the typical combined fuel use per day of all boats on the Lake, by season and how it compares to the proposed project. What are the impacts of trucking in the gas, how many trucks/day, which roadways, what hazards will this create, when and where would this be done, etc.? What will the cumulative impacts be from other foreseeable projects and activities (e.g. increases in boating are expected with the RPU’s increased populations).

Air Quality – Public Health and Ozone:

Whether regular or diesel fuel is used, the ferries are likely to generate substantial air quality emissions. As noted in TRPA's own material presented to the Governing Board on November 22, 2013,⁶ ozone violations in the Basin have occurred as recently as 2012. Current ozone measurements near the Ski Run Marina and Tahoe City Marina are unknown, publicly. Multiple requests for TRPA's data have been denied, and a recent request for Placer County's data has not been answered yet. Regardless, DRI studies note increased ozone on the Lake:

“Alan Gertler, a Desert Research Institute (DRI) scientist for 33 years, studies air quality around the globe. According to Gerler, the Tahoe Basin is suffering from elevated ozone levels. “The increased ozone has both human and environmental consequences. It doesn't violate the federal standard, but it does violate the California standard and is one of the few areas in California where ozone is getting worse.”⁷

Other studies suggest large boats may be responsible for elevated pollutants measured on the Lake (Zielinska et. al. 2011⁸), the CARB 2008 EI (the most recently available year for the Basin) estimates that off-road motor vehicles (including boats) contribute more ozone precursors (NOx and VOCs) than all on-road motor vehicles.⁹ As noted in attached comments regarding the RPU/RTP's inadequate assessment of air quality impacts, the CARB inventory is based on an average 'per day' emission estimate. However, boating on Lake Tahoe is seasonal, often combined to 100 days/year. When the total NOx and VOC emissions are analyzed across these 100 days (rather than 365), the impacts from boating on public health appear to be substantial. The DEIS/DEIR/DEIS must examine the anticipated per day emissions from the ferries in addition to the seasonal emissions from all other motorized boats during the summer. This is also the time of year when ozone is most likely to form, and when public health violations have tended to occur.

There is very limited boat use on the Lake during the off season. Inversions over the Lake often trap pollutants at the surface, preventing dilution and dispersion. In the winter, these inversions can last all day. The DEIS/DEIR/DEIS must examine the potential air quality impacts of the emissions from the ferries in light of the Basin's frequent inversions. What concentrations of pollutants will passengers be exposed to? Will the ferries be air-tight? What about ferry operators and employees on the service? Will they be protected from harmful levels of pollution? The ferries also propose ten trips/each per day based on one transit route. During times of inversions, the emissions from each trip may accumulate along this route, thus increasing the exposure to the ferries' emissions. Emissions from diesel fuel also expose people to toxic air contaminants. The DEIS/DEIR/DEIS must

⁶ See attached file “PCAPCD Tahoe Station data-1” provided by TRPA via email 11/22/2013. Note: Placer County requested TRPA to “Please make it clear that the data collected during 2012-13 is raw data without any QA/QC review. It is for information only and can't be used for any other purchase such as planning document or CEQA litigation.”

⁷ <http://www.dri.edu/images/stories/centers/cwes/2012-taho summit-webready.pdf>

⁸ Zielinska, B., Bytnerowicz, A., Gertler, A., McDaniel, M., Ahuja, S., and J. Burley. Distribution of ozone and ozone precursors in the Lake Tahoe Basin, USA. Accessible at:

http://www.trpa.org/documents/reisc/5_Comment%20References/LTSLT_FOWS_TASC_references/Air%20Quality%20Data%20and%20Comparisons/ShortPaper%20Zielinska_2003.pdf

⁹ <http://www.arb.ca.gov/ei/maps/basins/ablmap.htm>

clearly analyze these threats to public health and show how passengers, employees, other boat users, and people in the vicinity of the piers will be prevented.

Water Quality:

The NOI/NOP states that potential water quality impacts will be assessed in the DEIS/DEIR/DEIS. The NOI/NOP also states that the RTP EIR/S will be used as a program-level analysis. The DEIS/DEIR/DEIS must analyze the water quality impacts that will result from the actual ferries, schedules, gasoline, etc., that will be used. Impacts to lake water quality, nearshore quality, wave action, and other parameters must be thoroughly assessed. What is the potential for chemical spills? Sewage spills? (Will ferries have restrooms?) What will be done if a spill occurs, and what will the lasting water quality impacts be? These impacts must be compared to the impacts to lake clarity resulting from other alternatives, including passenger vehicles, in order to identify which method of travel is best for water quality.

What are the impacts from the shorezone structures that will be necessary to implement this project? For example, the RTP EIR/S states:

Impact 3.8-5

Changes in currents, related to changes in the natural littoral processes, or the course or direction of water movements in Lake Tahoe. RTP alternatives 1, 3, 4, and 5 that include the Lake Tahoe Waterborne Transit Project under Transportation Strategies A and C could potentially impact natural littoral processes that may exacerbate shoreline erosion through the expansion of existing piers or installation of new piers, docks or in-shoreline facilities to support expanded ferry operations.

Passenger ferry facilities associated with the Lake Tahoe Waterborne Transit Project would include several structures in the shorezone, which could include new piers. This public transit project is unique among the RTP transportation projects, because of its need for facilities in the shorezone; therefore, a separate environmental impact conclusion has been included related to the potential for effects on natural shorezone processes. (p. 3.6-32).

Noise:

The DEIS/DEIR/DEIS must analyze all sources of noise that will result from the project. This includes the noise and vibration from construction, as well as from long term operation. However, we note that the noise from the project's operation will include more than just engine noise. The assessment must also analyze the noise associated with passengers loading/unloading, having conversations, etc., as these will be ongoing sources of noise, especially in and around the Marinas. The DEIR/S inexplicably concluded no noise impacts simply because it will already be noisy in these areas. This offhand reference does not substitute for an assessment of noise impacts.

Waterborne transit service (Lake Tahoe Waterborne Transit Project) would also be introduced under some of the RTP/SCS alternatives. All transit-related watercraft would have to comply with TRPA noise threshold standards for single events, as shown in Table 3.6-2 above. Also, noise associated with ferry terminal operations and related parking facilities would not be unusual in the Region's urban areas where terminals would be located. Thus, operation of a waterborne transit system would not result in new types of noise sources in the Region or expose noise-sensitive receptors to excessive noise levels. (DEIR/S page 3.6-20)

Infrastructure:

There are no fueling facilities located at the Grove Street Pier; however, fueling is available at the adjacent Tahoe City Marina. The pier is open to the public.

The NOI/NOP notes that the ferry service may use up to 2,000 gallons of gas per day. Do the fueling facilities at the two proposed terminal Piers support this amount of gas/day? How many times will the ferries need to fill with gas each day? What are the increased risks of spills and other hazards from the fueling of this much gas? If gas needs to be trucked in, what are the impacts to our roadways? How many trucks per day, what route will they use, what emissions will they generate (this must be added to the emissions generated by the ferries as well)?

The ferry vessels would be refueled by truck or would require development of fueling facilities or improvement of existing fueling infrastructure at the identified ferry terminals. (p. 9)

The DEIS must examine the impacts of all possible options for fuel delivery.

Dredging and Pier expansions:**Pier Modifications**

Modifications to the existing piers would involve increasing the length of the piers, adding ramped access that meets ADA standards, and construction of a proposed floating pier platform that would be long enough to accommodate the ferry and at least 16 feet in width. The area surrounding the proposed pier expansions and floating platforms would require dredging for construction and maintenance dredging to provide sufficient depth during low lake level periods. (p. 8)

Will this project require dredging to accommodate ferries in low water years? The DEIS/DEIR/DEIS must analyze the impacts to water quality, including the potential to disturb the nearshore, contribute to/spread infestations of aquatic invasive species, to disturb fish habitat, and other impacts. Endless dredging into the future must not be allowed, nor should endless increases in pier length. How do climate change and water level predictions affect the proposed ferry paths?

Parking:

A parking plan would be developed later in the design process, after alternatives have been formalized for evaluation in the EIS/EIR/EIS.

It is unclear whether the DEIS/DEIR/DEIS will evaluate the impacts of parking? Assuming all passengers parked to ride the ferry (worst case), and based on the previous estimates of the number of trips diverted by the ferry (720), this would require parking for an additional 720 vehicles by the two Piers. Assuming a 50/50 distribution, each location would need approximately 355 parking spaces. However, this number could be much higher at either/both ends based on the demographics of riders (i.e. would they otherwise drive alone in a Single Occupancy Vehicle?) and other factors. The parking infrastructure required for this many vehicles is substantial, and the proposed Pier locations do not appear able to support this much parking.

Ridership:

Currently, seasonal water taxi service is available from Tahoe City south to Homewood and north to Carnelian Bay. A south shore water taxi operates between Camp Richardson Resort and Lakeside Marina; however, it does not currently stop at Ski Run Marina. A network of shared-use paths, sidewalks, and bicycle lanes exist near both proposed terminal locations. (p. 9)

What is the ridership on these taxi services? What are the costs, schedules, etc.? This information should be used to help evaluate the proposed ferry service.

Invasive Species:

The Proposed Project will rely on the Tahoe Keys marina for assembly, maintenance, and docking of the ferries. The Tahoe Keys Marina and waterways are overgrown with an invasive species (milfoil), which has been carried by boats into Lake Tahoe and is established in other parts of Lake Tahoe. Conditions in the marina and waterways are ripe for invasive species. Multiple other non-native invasives exist in this area. Even if the ferries never left the Lake once assembled, any use of the Tahoe Keys marina is likely to result in the increased transport of invasive species to other parts of Lake Tahoe. Species may be carried to the other marinas, and then distributed by the multitude of other boats using those marinas. The DEIS/DEIR/DEIS must carefully and thoroughly examine this impact and explain how it will be prevented.

The ferries also increase the potential for the spread of other invasives which may be introduced in other parts of the lake, and/or at the marinas they will use. The DEIS/DEIR/DEIS must carefully and thoroughly examine this impact.

Alternatives and Screening:

As noted in our comments on the Purpose, the identified purpose of the project is missing what should be the key component – **net environmental benefit**. As a result of the carefully-worded purpose, the agencies have set up a range of action alternatives which all include a ferry service, with ‘alternatives’ which are simply different iterations of a ferry service project. This is not an adequate range, and the purpose needs to be modified so it does not exclude a true range of alternatives.

TTD has been conducting a planning process with FTA oversight that has considered a broad range of alternatives, in accordance with federal procedures (discussed below). The EIS/EIR/EIS will consider one or more action alternatives to the proposed project that achieve the project goals and meet the Purpose and Need, and a No Project Alternative. Under the No Project Alternative, no ferry terminals would be developed and year-round transit service between the north and south shores would not occur. It is expected that the action alternatives that will be evaluated in the EIS/EIR/EIS will be limited to alternatives that also include cross-lake ferry service between the north shore and south shore. Alternatives that involve other transportation modes (i.e., bus service or a combination of bus and ferry service) to accomplish year-round transit service between the north and south shores have been considered in detail in the TTD planning process, but have been eliminated from further evaluation. Action alternatives that may be considered could include alternative pier designs (such as a fixed versus floating pier), landside facility configurations, vessel sizes, operational characteristics

(such as service frequency), terminal locations, and assembly and maintenance sites. The action alternatives will be defined for the EIS/EIR/EIS after consideration of input solicited during this public scoping period. Alternatives evaluated in the EIS/EIR/EIS will be analyzed at an equal level of detail as the proposed project.

Further, the assumption that the No Action alternative would not include year-round transit service between north and south shore completely ignores all of the other projects and plans by the agencies to improve public transit. The RTP includes many projects and policies which direct the agencies to increase public transit (through bus routes or other means). The exclusion of this option is unrealistic and unsupported, as the agencies themselves adopted plans in December 2012 to expand public transit. The RTP in fact notes the consideration of an alternative that would not use the ferries:

The Region's transportation agencies are planning future capital investments and service changes to enhance transit service in the Region. These include investment in waterborne transit facilities and service, operational enhancements for BlueGO and TART, establishment of a new transit service along the East Shore of Lake Tahoe, and enhanced vanpool service for commuters. Major projects are described in detail below.

Lake Tahoe Waterborne Transit

Location: Multiple

Lead Agency: Tahoe Transportation District

Lake Tahoe's early history included steamboat service connecting rail travelers arriving in Tahoe City with their summer destinations on the South Shore. To reduce auto traffic and provide an efficient and attractive way to travel across the Lake for both residents and tourists, the Tahoe Transportation District (TTD) is examining the potential for re-establishing a regular *Lake Tahoe Waterborne Transit* service between several sites on the North and South shores. The TTD is currently in the process of reviewing several service alternatives, including one which would provide the cross-lake service via a bus. RTP 4-16 [Emphasis added].

It is disturbing that the list of criteria fails to include the environmental impacts of the alternative.

The initial screening involved ranking the alternatives based on a rating scale of high (3), medium (2), and low (1) performance with respect to the following criteria:...

We disagree with the dismissal of alternatives which may not rely on the ferry service, or alternatives which use clean/solar-powered technology. The environmental impacts of the No Action alternative must also be thoroughly evaluated.

Growth-Inducing Impacts:

Growth-Inducing Impacts. The proposed project and action alternatives could create a small increase in the number of jobs available in the region on a temporary basis during construction. Given the growth restrictions that existing in the Lake Tahoe Region (limited commodities and restrictions on development), project implementation is not anticipated to result in long-term growth-inducing impacts.

The NOI/NOP notes the project may temporarily increase jobs, but not population due to TRPA's limits on growth. This statement is confusing for the reasons noted below. The DEIR/DEIR/DEIS must carefully and thoroughly examine the growth-inducing impacts of this project. This must include not only residents or new visitor units, but increased

trips into the Basin from areas adjacent to the Basin for the purposes of riding the ferry (for example, will visitors to Squaw Valley drive to Tahoe City to ride the ferry across the lake?). With regards to the confusing statements, we first note that extensive growth may result from the RPU, especially in Tahoe City and Ski Run/Stateline areas. Further, the RPU failed to consider the growth in adjacent areas, including the Squaw Valley and Northstar expansions, the increases in growth in the Sacramento/Bay Area Regions, etc. The NOI/NOP suggests the project is aimed at reducing existing trips (reduce dependence on the automobile), yet it appears the desired funding source for construction of the project and boats is based on an FTA grant which requires a 10% increase in capacity.¹⁰ Will the ferry increase the capacity to travel in the Basin, or will it prevent trips on our roadways?

Other costs:

It is unclear when the environmental impacts of the associated structures for this project will be analyzed, as well as constructed. The parking lots are a key example. Further, the funding for the project appears to exclude its use for these associated parameters, so who will be responsible for these other projects and improvements, as well as any mitigation? The DEIS/DEIR/DEIS must analyze all of the impacts associated with the ferries, as well as all elements and mitigation measures that will be necessary. The statement below raises the question of who will pay for some of these extras. The DEIS/DEIR/DEIS must assess how such improvements will be performed, so we do not end up with two polluting ferries and no money for the mitigation of their impacts.

To be eligible for funding, core capacity projects must: 1) be substantial corridor-based investments in existing fixed guideway systems and must be located in a corridor that is at or over capacity or will be in five years; 2) increase capacity by 10%; 3) not include project elements designed to maintain a state of good repair; and 4) not include elements to improve general station facilities or parking or acquisition of rolling stock alone. Projects may include: acquisition of real property and right of way, double tracking, signalization improvements, electrification, expanding system platforms, acquisition of rolling stock for increasing capacity, infill stations.

http://www.fta.dot.gov/12304_15522.html#s1i4

¹⁰ “This program defines a new category of eligible projects, known as core capacity projects, which expand capacity by at least 10% in existing fixed-guideway transit corridors that are already at or above capacity today, or are expected to be at or above capacity within five years.”

http://www.fta.dot.gov/documents/MAP-21_Fact_Sheet_-_Fixed_Guideway_Capital_Investment_Grants.pdf

Attachment included below: Placer County APCD Preliminary Ozone Data (preliminary)

Tahoe City Ozone Data				
	2012		2013 ^a	
	Date	8-Hr Avg. (ppb)	Date	8-Hr Avg. (ppb)
1 st High	12-Jul	72	31-May	59
2 nd High	17-Jun	68	20-Aug	59
3 rd High	19-Jun	67	22-Aug	59
4 th High	17-Jul	67	23-Aug	59
# Days above NAAQS ^b	0		n/a	
# Days above CAAQS ^c	1		n/a	
Data Coverage	86.73%		99.74%	

Kings Beach Ozone Data				
	2012		2013 ^a	
	Date	8-Hr Avg. (ppb)	Date	8-Hr Avg. (ppb)
1 st High	2-May	68	23-Aug	63
2 nd High	19-Jun	67	20-Aug	61
3 rd High	22-May	66	22-Aug	61
4 th High	13-Jul	66	21-Aug	60
# Days above NAAQS ^b	0		n/a	
# Days above CAAQS ^c	0		n/a	
Data Coverage	99.64%		99.85%	

^a The data in 2013 is until 9/30.

^b EPA revoked 1-hr ozone standard in 2004. Current NAAQS for ozone is 8-hr standard (0.075 ppm).

^c CARB established 1-hr standard (0.09 ppm) and 8-hr standard (0.070ppm) for ozone.

^a The data in 2013 is until 9/30.

^b EPA revoked 1-hr ozone standard in 2004. Current NAAQS for ozone is 8-hr standard (0.075 ppm).

^c CARB established 1-hr standard (0.09 ppm) and 8-hr standard (0.070ppm) for ozone.

Tahoe City PM2.5 Data				
	2012		2013 ^a	
	Date	24-Hr Avg.	Date	24-Hr Avg.
1 st High	23-Aug	21.3	23-Aug	93.3
2 nd High	14-Aug	14.8	24-Aug	78.4
3 rd High	23-Jul	14.3	27-Aug	43
4 th High	4-Aug	13	26-Aug	40.7
annual average	5.06		n/a	
# Days above NAAQS ^b	0		n/a	
# Days above CAAQS ^c	0		n/a	
Data Coverage	98.03%		99.86%	

Kings Beach PM2.5 Data				
	2012		2013 ^a	
	Date	24-Hr Avg.	Date	24-Hr Avg.
1 st High	14-Aug	22.6	23-Aug	132.5
2 nd High	23-Aug	14.7	24-Aug	64.8
3 rd High	15-Aug	13.7	27-Aug	52.7
4 th High	9-Apr	13.1	28-Aug	45.3
annual average	4.44		n/a	
# Days above NAAQS ^b	0		n/a	
# Days above CAAQS ^c	0		n/a	
Data Coverage	98.42%		80.33%	

^a The data in 2013 is until 9/30. These high readings were because of Rim Fire incident happened near Yosemite National Park.

^b EPA has annual average standard (12 ug/m³) and 24-hr average standard (35 ug/m³) for PM2.5.

^c CARB only has annual standard (12 ug/m³) for PM2.5.

^a The data in 2013 is until 9/30. These high readings were because of Rim Fire incident happened near Yosemite National Park.

^b EPA has annual average standard (12 ug/m³) and 24-hr average standard (35 ug/m³) for PM2.5.

^c CARB only has annual standard (12 ug/m³) for PM2.5.

From Placer County staff: *“Please make it clear that the data collected during 2012-13 is raw data without any QA/QC review. It is for information only and can't be used for any other purchase such as planning document or CEQA litigation.”*