DEPARTMENT OF TRANSPORTATION SERVICES

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May 21, 2010 RT2/09-299024R

Comment [MB1]: Date
--all dates will be updated when we print the letters for signature

Ms. Kim Kido
Sierra Club, Oahu Group
P.O. Box 2577
Honolulu, Hawaii 96803

Dear Ms. Kido:

Comment [KMC2]: From FTA email: For the Sierra Club letters: There are a few items that need to be addressed or improved upon:

Sierra Club: Agri. Mitigation and Air Quality (offset and mitigation comment).

Please ensure that you are not providing the suggestion that you are including all energy usage when not factoring in construction related energy.

-text added below

Subject: Honolulu High-Capacity Transit Corridor Project
Comments Received on the Draft Environmental Impact Statement

The U.S. Department of Transportation Federal Transit Administration (FTA) and the City and County of Honolulu Department of Transportation Services (DTS) issued a Draft Environmental Impact Statement (EIS) for the Honolulu High-Capacity Transit Corridor Project. This letter is in response to substantive comments received on the Draft EIS during the comment period, which concluded on February 6, 2009. The Final EIS identifies the Airport Alternative as the Project and is the focus of this document. The selection of the Airport Alternative as the Preferred Alternative was made by the City to comply with the National Environmental Policy Act (NEPA) regulations that state that the Final EIS shall identify the Preferred Alternative (23 CFR § 771.125 (a)(1)). This selection was based on consideration of the benefits of each alternative studied in the Draft EIS, public and agency comments on the Draft EIS, and City Council action under Resolution 08-261 identifying the Airport Alternative as the Project to be the focus of the Final EIS. The selection is described in Chapter 2 of the Final EIS. The Final EIS also includes additional information and analyses, as well as minor revisions to the Project that were made to address comments received from agencies and the public on the Draft EIS. The following paragraphs address comments regarding the above-referenced submittal:

Connectivity

Regarding station access, as indicated in the Final EIS Table 3-20, Daily Mode of Access to Project Stations—2030, overall access to public transit will be enhanced with the Project. A substantial portion of project riders will access the system by local bus and by walking and biking to the station. Bus, walk, and bike access to stations will account for approximately 90 percent of total trips in the a.m. peak period, 6 a.m. to 8 a.m. Several stations will be located near existing or planned bicycle facilities. As stated in Chapter 3, Section 3.4.5, the Oahu Bike Plan is

currently being updated and is scheduled to be adopted in 2010. Maps that show sidewalk and bicycle facilities within a half mile of each fixed guideway station are under development and will be used as part of the station planning process. The draft update includes a prioritized list of bicycle projects developed using criteria that includes access to transit. Several projects that would connect existing or future bicycle facilities to rail transit stations are included in the draft update. Additionally, the City will provide parking facilities at four stations (East Kapolei, UH West Oahu, Pearl Highlands, and Aloha Stadium). These stations were selected based on results from the travel demand forecasting model, which showed these stations had high drive-to-transit demand.

Comment [MB3]: In order to fully address comment, state "Figure __ illustrates these bike/ped connections."
- We do not have maps of bike/ped connections in the EIS.

As shown in Table 3-20, Daily Mode of Access to Project Stations—2030, in the Final EIS, 90 percent of fixed guideway riders will walk, bike, or take a bus to reach the stations, while the remaining 10 percent of riders will drive to park-and-ride facilities or be dropped off.

As stated in Section 2.5.5 of the Final EIS, Pedestrian and Bicycle Access, design criteria developed for stations place the highest emphasis on walk and bicycle access. The Design Criteria provide specific direction for pedestrian and bicycle access features at stations. For example, the criteria state that adequate pedestrian circulation routes shall be provided with an emphasis on avoiding pedestrian and vehicular conflicts and enabling good visibility to each station entrance. This emphasis will be complemented by distinct and clear graphic signage. For bicycle access, the criteria include language stating that racks shall be placed at the station plaza near the station entrance where public visual surveillance is possible and/or where closed circuit television monitoring is present.
~~Pedestrian access to stations, including accessible routes, will be given first priority for safety reasons. The design criteria also state that, as a non-motorized mode, bicycles will be given second priority in terms of station access, behind pedestrians.~~

Comment [MB4]: What does this mean? Handicap-accessible? If it's just access then this clause is unnecessary.
-text revised

As indicated in the Final EIS Section 4.6.3, Environmental Consequences and Mitigation [Neighborhoods], ongoing coordination efforts with the public will help develop design measures that will enhance the interface between the transit system and the surrounding community. The extent, nature, and location of these design measures will be determined through these coordination efforts and as part of the station planning and design process. The figures in Chapter 2 of the Final EIS identify the location of new pedestrian facilities, such as the pedestrian bridges at Pearl Highlands shown on Figure 2-23. DTS is working with other City Departments and the Hawaii Department of Transportation to provide adequate facilities for all access modes and to encourage the development of pedestrian and bicycle improvements near stations to coincide with the Project.

Comment [MB5]: Does this mean we don't have anything to show on the mapping? We don't know generally where the bike/ped facilities will be?
-text revised

Bicycles, luggage, and surfboards will be allowed on trains and regulated by policy to address high demand periods or special conditions. This policy is in development. Several stations will be located near existing or planned bicycle facilities. As stated in Chapter 3, Section 3.4.5, the Oahu Bike Plan is currently being updated and is scheduled to be adopted in 2010. The draft update of the Oahu Bike Plan includes a prioritized list of bicycle projects developed using criteria that includes access to transit. Several projects that would connect existing or future bicycle facilities to rail transit stations are included in the draft update. Additionally, the City will provide parking facilities at four stations (East Kapolei, UH West Oahu, Pearl Highlands,

and Aloha Stadium). These stations were selected based on results from the travel demand forecasting model which showed these stations had high drive to transit demand.

Several stations will be at or near existing or planned bicycle facilities. The Final EIS Section 3.4.2, Effects on Transit states: "Each station will have facilities for parking bikes, and each guideway vehicle will be designed to accommodate bicycles...sidewalks and crosswalks are currently available at stations or will become available as streets and sidewalks are built in developing areas. At many stations, the Project will add new sidewalks or widen or otherwise improve existing ones." While the Project is coordinating with City and State agencies to encourage development of enhanced pedestrian and bicycle facilities near stations, the actual construction of such facilities is beyond the scope of the Project.

In addition, at the Pearl Highlands Station, pedestrian bridges will connect station entrance with nearby residential and commercial areas. The East Kapolei Station will include an enhanced pedestrian link between the park-and-ride facility and station entrances. For the Honolulu International Airport Station, pedestrian walkways will connect the Station to the Interisland and Overseas Terminals.

Aesthetics and Viewplanes

In Section 4.8.3 of the Final EIS, specific environmental, architectural, and landscape design criteria are listed that will help minimize visual effects of the Project. The City will implement the following measures to minimize negative visual effects and enhance the visual and aesthetic opportunities that the Project creates:

- *Develop and apply design guidelines that will establish a consistent design framework for the Project with consideration of local context; examples include:*
  - *Landscaping will be used to screen the traction power substations from sensitive adjacent land uses, such as residential areas.*
  - *Site-specific designs will be created to provide station identity and respond to individual site conditions, including views, trees, sun and wind patterns. Landscaping materials will soften views and help integrate project elements into the urban fabric of the communities it serves. Specialty stations will be treated with historic context and careful design to reinforce the uniqueness of context or use.*
- *Coordinate the project design with the City's transit-oriented development program within the Department of Planning and Permitting.*
- *Conduct public involvement workshops to consult with the communities surrounding each station for input on station design elements.*
- *Consider specific sites for landscaping and trees during Final Design when plans for new plantings will be prepared by a landscape architect. Landscape and streetscape improvements will serve to mitigate potential visual impacts.*

Comment [MB6]: Provide an example.

Comment [PAM7]: This content provided by visual tech expert was added to address MB 6.

As stated in Section 2.2 of the Final EIS, prior to selecting an elevated fixed guideway system, a variety of high-capacity transit options were evaluated during the Primary Corridor Transportation Project (1998—2002) and Alternatives Analysis. Options evaluated and rejected included an exclusively at-grade fixed-guideway system using light-rail or bus rapid transit (BRT) vehicles, as well as a mix of options consisting of both at-grade and grade-separated segments.

The Alternatives Screening Memorandum (DTS 2006a) recognized the visually sensitive areas in Kakaako and Downtown Honolulu, including the Chinatown, Hawaii Capital, and Thomas Square/Honolulu Academy of Arts Special District. To minimize impacts on historic resources, visual aesthetics, and surface traffic, the screening process considered 15 combinations of tunnel, at-grade, or elevated alignments between Iwilei and Ward Avenue. Five different alignments through Downtown Honolulu were advanced for further analysis in the Alternatives Analysis, including an at-grade portion along Hotel Street, a tunnel under King Street, and elevated guideways along Nimitz Highway and Queen Street (Figure 2-4).

The Alternatives Analysis Report (DTS 2006b) evaluated the alignment alternatives based on transportation and overall benefits, environmental and social impacts, and cost considerations. The report found that an at-grade alignment along Hotel Street would require the acquisition of more parcels and could potentially affect more burial sites than any of the other alternatives considered. The alignment with at-grade operation Downtown and a tunnel under King Street, was not selected because of the environmental effects, such as impacts to cultural resources, reduction of street capacity, and property acquisition requirements of the at-grade and tunnel sections, which would cost an additional $300 million.

The Project's purpose is "to provide high-capacity rapid transit" in the congested east-west travel corridor (see Section 1.7 of the Final EIS). The need for the Project includes improving corridor transit mobility and reliability. The at-grade alignment would not meet the Project's Purpose and Need because it could not satisfy the mobility and reliability objectives of the Project (see bullets below). Some of the technical considerations associated with an at-grade versus elevated alignment through Downtown Honolulu include the following:

- ***System Capacity, Speed, and Reliability**—The short, 200-foot (or less) blocks in Downtown Honolulu would permanently limit the system to two-car trains to prevent stopped trains from blocking vehicular traffic on cross-streets. Under ideal operational circumstances, the capacity of an at-grade system could reach 4,000 passengers per hour per direction, assuming optimistic five minute headways. Based on travel forecasts, the Project should support approximately 8,000 passengers in the peak hour by 2030. Moreover, the Project can be readily expanded to carry over 25,000 in each direction by reducing the interval between trains (headway) to 90 seconds during the peak period. To reach a comparable system capacity, speed, and reliability, an at-grade alignment would require a fenced, segregated right-of-way that would eliminate all obstacles to the train's passage, such as vehicular, pedestrian, or bicycle crossings. Even with transit signal priority, the at-grade speeds would be slower and less reliable than an elevated guideway. An at-grade system would travel at slower speeds due to the shorter blocks, tight and short radius curves in places within the constrained and*

congested Downtown street network, the need to obey traffic regulations (e.g., traffic signals), and potential conflicts with other at-grade activity, including cars, bicyclists, and pedestrians. These effects mean longer travel times and far less reliability than a fully grade-separated system. None of these factors affects an elevated rail system. The elevated rail can travel at its own speed any time of the day regardless of weather, traffic, or the need to let cross traffic proceed at intersections.

- ***Mixed-Traffic Conflicts***— *The Project will run at three minute headways. However, three-minute headways with an at-grade system would prevent effective coordination of traffic signals in the delicately balanced signal network in downtown Honolulu. A disruption of traffic signal cycle coordination every three minutes would severely affect traffic flow and capacity of cross-streets. Furthermore, there would be no option to increase the capacity of the at-grade rail system by reducing the headway to 90 seconds, which would only exacerbate the signalization problem. An at-grade system would require removal of two or more existing traffic lanes on affected streets. This effect is significant and would exacerbate congestion. Congestion would not be isolated to the streets that cross the at-grade alignment but, instead, would spread throughout Downtown. The Final EIS shows that the Project's impact on traffic will be isolated and minimal with the elevated rail, and, in fact will reduce system-wide traffic delay by 18 percent compared to the No Build Alternative (Table 3-14 in the Final EIS). The elevated guideway will require no removal of existing through travel lanes, while providing a reliable travel alternative. When traffic slows, or even stops due to congestion or incidents, the elevated rail transit will continue to operate without delay or interruption.*

  An at-grade light rail system with continuous tracks in-street would create major impediments to turning movements, many of which would have to be closed to eliminate a crash hazard. Even where turning movements are designed to be accommodated, at-grade systems experience potential collision problems. In addition, mixing at-grade fixed guideway vehicles with cars, bicyclists, and pedestrians presents a much higher potential for conflicts compared to grade-separated conditions. Where pedestrian and automobiles cross the tracks in the street network, particularly in areas of high activity (e.g., station areas or intersections), there is a risk of collisions involving trains that does not exist with an elevated system. There is evidence of crashes between trains and cars and trains and pedestrians on other at-grade systems throughout the country (e.g., Phoenix, Houston, LA). This potential would be high in the Chinatown and Downtown neighborhoods, where the number of pedestrians is high and the aging population presents a particular risk.

- ***Construction Impacts***—*Constructing an at-grade rail system could have more effects than an elevated system in a number of ways. The wider and continuous footprint of an at-grade rail system compared to an elevated rail system (which touches the ground only at discrete column foundations, power substations, and*

station accessways) increases the potential of utility conflicts and impacts to sensitive cultural resources. In addition, the extra roadway lanes utilized by an at-grade system would result in increased congestion or require that additional businesses or homes be taken to widen the roadway through Downtown. Additionally, the duration of short-term construction impacts to the community and environment with an at-grade system would be considerably greater than with an elevated system. Because of differing construction techniques, more lanes would need to be continuously closed for at-grade construction and the closures would last longer than with elevated construction. This would result in a greater disruption to business and residential access, prolonged exposure to construction noise, and traffic impacts.

Because it is not feasible for an at-grade system through Downtown to move passengers rapidly and reliably without significant detrimental effects on other transportation system elements (e.g., the highway and pedestrian systems, safety, reliability, etc.), an at-grade system would have a negative system-wide impact that would reduce ridership throughout the system. The at-grade system would not meet the Project's Purpose and Need and, therefore, does not require further analysis.~~The Alternatives Screening Memorandum (DTS 2006a) recognized the visually sensitive areas in Kakaako and Downtown Honolulu, including the Chinatown, Hawaii Capital, and Thomas Square/Academy of Arts Special Design Districts. To minimize impacts on historic resources, visual aesthetics, and surface traffic, 15 combinations of tunnel, at-grade, or elevated alignments between Iwilei and Ward Avenue were considered during the screening process. Five different alignments through Downtown Honolulu were advanced for further analysis in the Alternatives Analysis, including an at-grade portion along Hotel Street, a tunnel under King Street, and elevated guideways along Nimitz Highway and Queen Street.~~

~~The Alternatives Analysis Report (DTS 2006b) included the evaluation of the alignment alternatives based on transportation and overall benefits, environmental and social impacts, and cost considerations (49 U.S.C. § 5309). It was determined that an at-grade alignment along Hotel Street would require the acquisition of more parcels and affect more burials than any of the other alternatives considered. The alignment with at-grade operation Downtown and a tunnel through the Capital Historic District, in addition to the environmental effects (e.g., impacts to cultural resources), reduction of street capacity, and property acquisition requirements of the at-grade and tunnel sections, would cost approximately $300 million more than the least expensive build alternative.~~

Comment [MB8]: Please make sure this is accurate.
- Replaced with standard at-grade response developed based on FTA comments

~~The Project's purpose is "to provide high-capacity rapid transit" in the congested east-west travel corridor. The need for the Project includes improving corridor mobility and reliability. The at-grade alignment would not meet the Project's Purpose and Need because it could not satisfy the mobility and reliability objectives of the Project (see bullets below). Some of the technical considerations associated with an at-grade versus elevated alignment through Downtown Honolulu include the following:~~

~~**System Capacity, Speed, and Reliability:** The short, 200-foot (or less) blocks in Downtown Honolulu would permanently limit the system to two-car trains to prevent stopped trains from blocking vehicular traffic on cross-streets. Under ideal operational circumstances, the capacity of an at-grade system could reach 4,000 passengers per hour per direction, assuming optimistic five minute headways. Based on travel forecasts, the Project should support approximately 8,000 passengers in the peak hour by 2030. Moreover, the Project can be readily expanded to carry over 25,000 in each direction by reducing the interval between trains (headway) to 90 seconds during the peak period. To reach a comparable system capacity, speed, and reliability, an at-grade alignment would require a fenced, segregated right-of-way that would eliminate all obstacles to the train's passage, such as vehicular, pedestrian, or bicycle crossings. Even with transit signal priority, the at-grade speeds would be slower and less reliable than an elevated guideway. An at-grade system would travel at slower speeds due to the shorter blocks, tight and short radius curves in places within the constrained and congested Downtown street network, the need to obey traffic regulations (e.g., traffic signals), and potential conflicts with other at-grade activity, including cars, bicyclists, and pedestrians. These effects mean longer travel times and far less reliability than a fully grade-separated system. None of these factors affect an elevated rail system. The elevated rail can travel at its own speed any time of the day regardless of weather, traffic or the need to let cross traffic proceed at intersections.~~

~~**Mixed-Traffic Conflicts**: The planned three-minute headways on the guideway will prevent effective coordination of traffic signals in the delicately balanced signal network in Downtown Honolulu. A three minute cycle of traffic lights would affect traffic flow and capacity of cross-streets. Furthermore, there would be no option to increase the capacity of the rail system by reducing the headway to 90 seconds, which would only exacerbate the signalization problem. An at-grade system would require removal of two or more existing traffic lanes on affected streets. This effect is significant and would exacerbate congestion. Congestion would not be isolated to the streets that cross the at-grade alignment but instead would spread throughout Downtown. The Final EIS shows that the Project's impact on traffic will be isolated and minimal with an elevated guideway, and will reduce system-wide traffic delay by 18 percent compared to the No~~

~~*Build Alternative (Table 3-14 in the Final EIS). The elevated guideway will require no removal of existing travel lanes, while providing a reliable travel alternative. When traffic slows, or even stops due to congestion or incidents, the elevated rail transit will continue to operate without delay or interruption.*~~

~~*An at-grade light rail system, with continuous tracks in-street, would create major impediments to turning movements, many of which would have to be closed to eliminate a crash hazard. Even where turning movements are designed to be accommodated, at-grade systems experience potential collision problems. In addition, mixing at-grade fixed guideway vehicles with cars, bicyclists, and pedestrians presents a much higher potential for conflicts compared to grade-separated conditions. Where pedestrians and automobiles cross the tracks in the street network, particularly in areas of high activity (e.g., station areas or intersections) there is a risk of collisions involving trains that does not exist with an elevated system. There is evidence of crashes between trains and cars and trains and pedestrians on other at-grade systems throughout the country. This potential would be high in the Chinatown and Downtown neighborhoods, where the number of pedestrians is high and the aging population presents a particular risk.*~~

~~***Construction Impacts**: Constructing an at-grade rail system could have more effects than an elevated system in a number of ways. The wider and continuous footprint of an at-grade rail system compared to an elevated rail system (which touches the ground only at discrete column foundations, power substations and station accessways) increases the potential of utility conflicts and discovery of sensitive cultural resources. In addition, the extra roadway lanes taken away for the system would result in increased congestion or require that additional businesses or homes be taken to widen the roadway through Downtown. Additionally, the duration of short-term construction impacts to the community and environment with an at-grade system would be greater than with an elevated system. Because of differing construction techniques, more lanes would need to be continuously closed for at-grade construction and the closures would last longer than with elevated construction. This would result in a greater disruption to business and residential access.*~~

~~*Because it is not feasible for an at-grade system through Downtown to move passengers rapidly and reliably without significant detrimental effects on other transportation system elements (e.g., the highway and pedestrian systems, safety, reliability, etc.), an at-grade system would have a negative system-wide impact that would be likely to reduce ridership throughout the system. The at-grade system would not meet the Project's Purpose and Need and, therefore, does not require additional analysis.*~~

Agricultural Land

The detailed discussion of zoning as the key implementing tool to turn land use planning policies into development is presented in the Honolulu High-capacity Transit Corridor Project Land Use Technical Report (RTD 2008b) and summarized in Section 4.2.3 in the Final EIS. The technical report can be reviewed at the City and County of Honolulu DTS office or on the Project website (www.honolulutransit.org). The Project focus is the construction and implementation of rail transit service, and that is what is covered in the Final EIS. However, as mentioned in

Section 4.19.2 of the Final EIS, transit-oriented development (TOD) is expected to occur in project station areas as an indirect effect of the Project. The increased mobility and accessibility that the Project may provide will also increase the desirability and value of properties near the stations, thereby attracting new real estate investment nearby (in the form of TOD). In March 2009, the City Council approved and the Mayor of Honolulu signed Bill 10 (2008) (Ordinance 09-4), which defines the City's approach to TOD around fixed guideway stations. New zoning regulations will address parking standards, new density provisions, open space, and affordable housing. Financial incentives could include public-private partnerships, real property tax credits, and infrastructure financing. While the Project includes coordination with City and State agencies to encourage development of enhanced pedestrian and bicycle facilities and other land use changes near stations, the actual construction of such facilities and zoning changes are beyond the scope of the Project. The special districts also encourage public input into the design of TOD neighborhood plans to reflect unique community identities.

As stated in Section 4.2.3, Environmental Consequences and Mitigation [Lane Use], of this Final EIS, the only farmlands that will be acquired for the Project are in the Ewa Plain. The Ewa Development Plan designates areas for dense development while preserving other areas for agriculture. A maximum of 80 acres of prime farmland and 8 acres of statewide-important farmlands will be acquired by the Project, of which 70 acres are actively cultivated. All of the affected properties designated as prime, unique, or of statewide importance and/or actively farmed are owned by individuals, corporations, or agencies that plan to develop them in conformance with the Ewa Development Plan.

The 88 acres of agricultural impacts include land for a maintenance and storage facility. One of the two alternatives for a maintenance and storage facility is in agricultural-related use (Aloun Farms). The other potential maintenance and storage facility is located near Leeward Community College and is the site of a former Navy fuel storage and delivery facility. The Leeward Community College location is the preferred location for the maintenance and storage facility, and the City has been working with the Navy to acquire it. If the Project can acquire this site, only about 47 acres of agricultural land designated prime or of statewide importance will be used for the Project.

As stated in Section 4.2.3 of the Final EIS the 2002 Census of Agriculture (USDA 2004) reported that there are more than 70,000 acres of agricultural land in cultivation on O'ahu, including those designated as prime, unique, or of statewide importance. The displacement of agricultural lands as a result of the Project represents less than one-tenth of one percent of available agricultural land. Considering that the amount of affected farmland is such a small proportion of all agricultural lands on O'ahu, including those designated as prime, unique, or of statewide importance, the effect will not be substantial and no mitigation ~~will be required~~is proposed.
~~The displacement of agricultural lands as a result of the Project represents less than one-tenth of one percent of available agricultural land on Oahu. The Project's effect will not be substantial and no mitigation will be required.~~

The Waipahu area does not provide an available location for park-and-ride facilities to serve Ewa and Waianae traffic. Also, buses would be required to access the terminal station

Comment [MB9]: Appropriate response?
This is a correct statement and is in the FEIS.
Appropriate
No edit required
Complete

Comment [MB10]: Please refer the reader to the appropriate place in the FEIS. This statement is at first subjective and then too strong, and this therefore is not appropriate language to use.
PM: text added from FEIS

through congested traffic on Farrington Highway. The savings from shortening the Ewa limit of the project corridor would not be sufficient to connect UH Manoa and Waikiki and would result in substantial traffic impacts in the Waipahu area. The Project serves areas within the Urban Growth Boundary defined by the Ewa Development Plan. By supporting development within the Urban Growth Boundary, further development pressure outside of the boundary will be reduced.

Air Quality

The regional pollutant burdens estimated in Table 4-15, 2030 Mobile Source Regional Transportation Pollutant Burdens, of the Final EIS are based on Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) estimates throughout the study area. These estimates are based on regional planning models adopted by the OahuMPO. Emission rates ~~are~~ were developed through the use of EPA's MOBILE6.2 Emission Factor program which takes into account vehicle mix, speed, meteorological conditions of the study area, and vehicular registration information. The Regional VMT model is reviewed by the State agencies for accuracy. Additional detail is available in the Transportation and Air Quality Technical Reports for the Project. The reports can be reviewed at the City and County of Honolulu Department of Transportation (DTS) Services office or on the Project website (www.honolulutransit.org). The analysis conducted for the EIS is based on the available information and Environmental Protection Agency (EPA) methodology. Since the analysis found there is no impact to air quality as a result of the Project, no mitigation is proposed.

Comment [MB11]: Spell. Even though found in FEIS, this is a "new" document and as such, these acronyms should be spelled out the first time used.
-ok

Field Code Changed

The results shown in Table 4-15 of the Final EIS reflect mobile source emission burdens. As stated in the text, additional emissions will be generated due to the power requirements of the fixed guideway system. Table 4-21 in the Final EIS indicates that the Project would require ~~2~~-3 percent less overall energy as compared to the No Build Alternative. The Project is expected to result in decreased emissions generated on the roadways along with an increase in power source emissions resulting from fixed guideway energy consumption. However, the overall emission level for the Project is expected to be lower than the No Build Alternative because of anticipated reduced traffic congestion compared to the No Build Alternative (see Section 3.4.2 of the Final EIS).

As summarized in Table 4-21, 2030 Summary of Average Daily Transportation Energy Demand, in the Final EIS, operation of the Project is anticipated to reduce daily transportation energy demand by approximately 3 percent compared to the No Build Alternative. This decrease in energy demand is due to the reduction in VMT that occurs as a result of people switching from automobiles to the fixed guideway system and includes electrical energy required to operate the fixed guideway system.

~~In general, per capita emissions from rail transit are less than a third of those from the automobile.~~ VMT is the sum of the length of all highway segments multiplied by the number of vehicles that travel on them over the course of a day. The travel forecasting model performs that calculation each time the model is run. The differences in VMT between alternatives in the analyses are based on the differences in the numbers generated by the model. The same is generally true for VHT and VHD. VMT, VHT, and VHD forecasts have been developed using the travel demand model, which was calibrated against collected traffic and transit ridership

Comment [MB12]: This sent was deleted in other Kido letter b/c no source for the info could be found.
-ok

information and then validated against current counts to be sure it properly represents travel activity in the transportation system (Section 3.2.1 of the Final EIS). An on-board transit survey was completed in December 2005 and January 2006, and the latest socioeconomic information available as of October 2008 was incorporated. Traffic counts were collected in 2005, 2007, and 2008. ~~and validated to current year conditions.~~ The model is based upon a set of realistic input assumptions regarding land use and demographic changes, such as updates to population and employment patterns that reflect planned development on Oahu, between now and 2030 and expected transportation levels-of-service on both the highway and public transit system.

Comment [MB13]: Provide year.
-ok

Comment [MB14]: Comment was, discuss the possibility that the offset may not occur, as well as mitigation measures. Please address.
Complete

Comment [MB15]: I'm concerned MB12 still hasn't been addressed.
-text added to the end of the first paragraph

Energy

According to the U.S. Department of Energy, Transportation Energy Data Book, for the year 2006, passenger cars require 3,512 BTUs per passenger mile while transit trains require 2,784 BTUs per passenger mile, and transit buses require 4,235 BTUs per passenger mile. Based upon these figures, transit trains are a more energy efficient mode of transportation compared to passenger cars or transit buses. These figures are influenced by the load factor (persons per vehicle). The Honolulu system currently has the fourth highest load factor of any transit system in the United States and the highest load factor for any transit system without a rail transit system (Table 3-8 in the Final EIS). ~~The load factor for the Department of Energy study for heavy transit trains is 22.5 persons per vehicle. The vehicles proposed for the Honolulu system are capable of carrying between 325 and 500 passengers each. The Honolulu system is forecast to have a higher than average load factor, resulting in greater per-passenger efficiency than the national average (Section 2.5.1 of the Final EIS).~~

Comment [MB16]: State the project's load factor.
-text revised and updated to match Kido letter

Vehicle efficiency is factored into energy calculations based on overall fleet performance. In general, performance is assumed to improve over time consistent with fleet requirements imposed by federal law or set by individual states.

The Project will rely on Hawaiian Electric Company, HECO's existing grid to provide propulsion for the trains and system operations for the trains. HECO is moving toward renewable energy generation. As that happens, the fixed guideway will also benefit from such new sources of energy. The 21 proposed stations and maintenance and storage facility will incorporate energy efficiency, alternative energy technologies, and other sustainable features into the design to the extent possible. This is being accomplished by including sustainability design criteria into the construction contract documents for the Project. Combined with the State's commitment to renewable electricity production, the system will substantially reduce the consumption of petroleum. Transportation energy use is evaluated in Section 4.11, Energy and Electric and Magnetic Fields, of the Final EIS.

As shown in Section 4.11, Energy and Electric and Magnetic Fields, of this Final EIS, the Project will result in reduced transportation energy consumption on Oahu. As stated previously, for at-grade operation, the system would require a fenced right-of-way with no crossings. It is not possible to construct such a system in many parts of the corridor, such as in the Downtown area.

Margins of Error

The preparation of the Draft and Final EISs follows the requirements of the Federal process established by NEPA, as applied by the FTA, and Chapter 343 of the Hawaii Revised Statutes. Further detail, including data assumptions, is available in the supporting technical reports for each of the discipline areas. The FTA-approved forecasting methodology is not a probabilistic analysis and does not inherently provide margins of error.

Comment [MB17]: Use this language if true statement.
-insert is good

Cost

Chapter 6 of the Final EIS notes that fares are already subsidized for TheBus and are assumed to be for the Project. This is a typical practice for most transit systems throughout the country. The City Council's current policy is to recover between 27 and 33 percent of the annual cost of operations and maintenance from fares. It applies to all users, although reduced-cost fare categories are available to select groups, such as seniors and students.

Chapter 6 of the Final EIS notes that the capital costs of the Project will be paid for using the County General Excise Tax Surcharge authorized by the State Legislature and approved by the City Council, and Federal funding from the Federal Transit Administration. Farebox revenues are generally used to pay for ongoing operating and maintenance of the system.

The City Council's current policy is that 27 to 33 percent of operating and maintenance costs be recovered from farebox collections. As costs change, the City Council will adjust fares to meet that requirement. That means fares could rise or fall depending on conditions.

The FTA and DTS appreciate your interest in the Project. The Final EIS, a copy of which is included in the enclosed DVD, has been issued in conjunction with the distribution of this letter. Issuance of the Record of Decision under NEPA and acceptance of the Final EIS by the Governor of the State of Hawaii are the next anticipated actions.

Very truly yours,

WAYNE Y. YOSHIOKA
Director

Enclosure