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May 21, 2010 RT10/09-338277

Mr. Henry Curtis, Executive Director
Life of the Land
76 North King Street, Suite 203
Honolulu, Hawaii 96817

Dear Mr. Curtis:

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 should focus on 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:

Life of the Land Comment 1

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/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 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. 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 an exclusively 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, 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 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 three-minute headways on the at-grade guideway would 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 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 travel lanes, while providing an attractive, 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 would 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 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 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 additional analysis.

As stated previously, 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. Even with transit signal priority, the at-grade speeds will be slower and less reliable than an elevated guideway. Under ideal 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.

Life of the Land Comment 2

As discussed in the response to Comment 1 in this letter, 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 were advanced for further analysis in the Alternatives Analysis, including an at-grade portion along Hotel Street and a tunnel under King Street. The Alternatives Analysis Report (2006) and the Alternatives Screening Memorandum (2006) provide a discussion regarding the at-grade alignments considered. The reference sections of these reports list other resources that support the alternatives analysis.

Life of the Land Comment 3

Enhanced bus service was considered during the Alternatives Analysis Phase (referred to as the Transportation System Management (TSM) Alternative). As discussed in Chapter 2, Section 2.2.2 of the Final EIS, the TSM Alternative was designed to serve the study corridor based on a hub-and-spoke network of bus routes, similar to today. The alternative included

express bus service that operated as bus rapid transit in existing facilities. Bus frequencies would have been increased during peak periods to provide improved service for work-related trips, particularly from developing areas such as Royal Kunia, Koa Ridge, and Waiawa. The bus fleet was assumed to increase from 525 to 765 buses, and park-and-ride lots were assumed at West Kapolei, UH West O'ahu, Waipi'o, and Aloha Stadium. In addition, the present a.m. peak-hour-only zipper lane would have been modified to operate in both the a.m. and p.m. peak periods, and relatively low-cost improvements would have been made on selected roadways to give priority to buses.

The analyses found that the TSM Alternative would have improved transit travel times somewhat by reducing the amount of time riders would have to wait for a bus to arrive at a bus stop. As a result, the TSM Alternative would have led to a slightly larger number of daily transit trips than the No Build Alternative (Table 2-2). This alternative would have generated fewer hours of transit-user benefits than either the Managed Lane or Fixed Guideway Alternative. Since most buses would still operate in mixed traffic, the TSM Alternative would have done little to improve corridor mobility and travel reliability. Roadway congestion also would not have been alleviated. In addition, because of the dispersed nature of transit service, slow bus speeds, and unreliable service, the TSM Alternative would not have supported the City's goals of concentrating growth within the corridor and reducing development pressures in rural areas.

In terms of its environmental impacts, the TSM Alternative would have generated fewer physical impacts than the Managed Lane and Fixed Guideway Alternatives. However, it would have required more transportation system energy and generated more air pollutant emissions and water pollution than the Fixed Guideway Alternative (Table 2-3). Although the TSM Alternative would have been very cost-effective, financial feasibility was a concern. Currently, State legislation does not allow the local excise and use tax surcharge to be used for enhancement of the existing bus transit system.

Life of the Land Comment 4

The Alternatives Analysis Report (November 2006) and the Alternatives Screening Memorandum provide a discussion on the TSM Alternative, including results of the analysis. The reference sections of these reports list other resources that support the alternatives analysis, including analysis of the TSM Alternative.

Life of the Land Comment 5

As discussed in the response to Comment 1 in this letter, 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 were advanced for further analysis in the Alternatives Analysis, including an at-grade portion along Hotel Street and a tunnel under King Street. The Alternatives Analysis Report (2006) and the Alternatives Screening Memorandum (2006) provide a discussion regarding the at-grade alignments considered. The reference sections of these reports list other resources that support the alternatives analysis.

Life of the Land Comment 6

The Project's technology, which is steel wheel on steel rail, may be operated above grade (elevated), at-grade (street level), or below grade (underground). The requirement is that the system operates in an exclusive right-of-way. To preserve system speed and reliability, neither automobiles nor pedestrians can be allowed to cross the tracks. For at-grade operation, this would require a fenced right-of-way with no crossings. It is not possible to construct such a system in developed portions of the corridor such as in the Downtown area. Portions of the alignment in undeveloped areas could be constructed at-grade with a fenced right-of-way. However, this would prohibit at-grade access to the future development. .. Placing any part of the system in mixed right-of-way would affect reliability of the entire system as described above.

Life of the Land Comment 7

See response to Life of the Land Comment 6. Regarding costs, an at-grade system is less costly, but the compromise in performance would make it infeasible in Honolulu. A good comparison is Phoenix, which recently opened a fully at-grade system that is 20 miles long, similar in length to this Project. It takes over 1-½ hours to travel from end-to-end compared to the 42 minutes it will take in Honolulu. Phoenix has also had some vehicular and pedestrian safety challenges as people negotiate the streets with the new system. In Phoenix, the at-grade system works because it has plenty of alternative street options for vehicular traffic to use. That flexibility does not exist in Honolulu.

Life of the Land Comment 8

To meet system requirements as outlined in Section 2.5.1 (Final EIS), Operating Parameters, at-grade operation would require a fenced right-of-way. Cross-streets and local access would preclude at-grade operation adjacent to Farrington Highway. As discussed above, an at-grade system was found not to be feasible therefore an investigation of right-of-way on specific streets for an at-grade system was not conducted.

Life of the Land Comment 9

The Project follows Farrington Highway, not H-1 in the Kapolei-Ewa area. During the Alternatives Analysis process, the Hawaii State Department of Transportation (HDOT) informed DTS that all of the H-1 right-of-way needs to be preserved for future freeway use.

Life of the Land Comment 10

Farrington Highway lanes could not be used for a rail line. One of the project design requirements is operation in an exclusive right-of-way. Using lanes on Nimitz Highway would create pedestrian-vehicle conflicts. In addition, reducing the number of travel lanes would worsen congestion for highway users.

Life of the Land Comment 11

At-grade operation would require a fenced right-of-way. Cross-streets and local access along Farrington Highway would preclude at-grade operation in Waipahu.

Life of the Land Comment 12

The Project includes a station at Leeward Community College. Details about the alignment selection can be found in the Honolulu high-capacity transit corridor project Alternatives Analysis Report (DTS 2006b).

Comment [k1]: This answer still doesn't respond directly to the comment.

Comment [MB2]: Was a spur considered as opposed including the college along the main line? This response doesn't answer his question.

Completed

Life of the Land Comment 13

The fixed guideway Project will serve Leeward Community College. Figure 3-9, 2030 A.M. Two Hour Peak Period Boardings, Alightings, and Link Volumes, in this Final EIS shows 190 passenger boardings and 700 alightings at this station during the a.m. two hour peak period (6 a.m. to 8 a.m.). Figure 3-10, 2030 Daily Boardings and Alightings, and Link Volumes, shows 3,200 daily boardings and alightings.

Life of the Land Comment 14

The Project will serve Central Oahu with feeder bus service. A future rail extension to this area is not precluded. Future bus routes and frequencies are shown in Appendix D, Bus Transit Routes, in the Final EIS.

Life of the Land Comment 15

The Waipio area will be served by the fixed guideway station in Waipahu with buses serving the surrounding communities. Figure 3-9, 2030 A.M. Two Hour Peak Period Boardings, Alightings, and Link Volumes, in the Final EIS shows 1,050 passenger boardings and 350 alightings at this station during the a.m. two hour peak period. Figure 3-10, 2030 Daily Boardings, Alightings, and Link Volumes, shows 3,080 daily boardings and alightings. A spur line to Waipio has not been evaluated.

Life of the Land Comment 16

The Project does not serve Mililani directly via the fixed guideway system. However, the Project does include a major transit center and park-and-ride facility at the H-1/H-2 merge (Figure 2-21, Pearl Highlands Station, in this Final EIS) that would be accessible via a direct off-ramp from H-2. Figure 3-7, A.M. Peak-Period Transit Travel Times, in this Final EIS shows that travel times would be reduced for those traveling from Mililani to Downtown using the fixed guideway system for a portion of their commute. A spur line to Mililani has not been evaluated.

Life of the Land Comment 17

The Kamehameha Highway right-of-way abuts private property and construction of even one rail track on the makai side of this road would require acquiring right-of-way near Pearl Highlands Center, Pearl City Shopping Center, and the Pearl Ridge Shopping Center. These locations will instead be served by an elevated guideway system, which reduces the amount of right-of-way needed in this area.

Comment [k3]: Or eliminates? Perhaps delete second part of sentence. Ensure Comment 18 has language from this comment.

Life of the Land Comment 18

The Kamehameha Highway right-of-way abuts private property and construction of even one rail track on the mauka side of this road would require acquiring right-of-way near Pearl Highlands Center, Pearl City Shopping Center, and the Pearl Ridge Shopping Center. These locations will instead be served by an elevated guideway system, which reduces the amount of right-of-way needed in this area.

Life of the Land Comment 19

There is sufficient space for an elevated guideway makai of the Airport Viaduct. Ewa of Aolele, the Project is makai of the H-1 and Nimitz Highway interchange. Koko Head of Aolele, it would be difficult to cross over the airport access ramps, and fewer riders would be served than with the proposed alignment serving the Airport along Aolele and Ualena Streets.

Life of the Land Comment 20

Pearl Harbor Naval Base will be served by the Project with a station on Kamehameha Highway at Radford Drive. The station will touch down on the mauka side of Kamehameha Highway in order to avoid historic resources on the makai side.

Comment [k4]: Comment is still not being directly answered.

Life of the Land Comment 21

Pearl Harbor Naval Base will be served by the Project with a station at Kamehameha Highway and Radford Drive. Figure 3-9, 2030 A.M. Two Hour Peak Period Boardings, Alightings, and Link Volumes, in this Final EIS shows 550 passenger boardings and 1,410 alightings at the Pearl Harbor Naval Base Station during the a.m. two hour peak period. Figure 3-10, 2030 Daily Boardings, Alightings, and Link Volumes, shows 5,440 daily boardings and alightings. There will be bus service connecting the rail station with destinations on Pearl Harbor Naval Base.

Life of the Land Comment 22

There will be a fixed guideway station serving Pearl Harbor Naval Base. Figure 3-9, 2030 A.M. Two Hour Peak Period Boardings, Alightings, and Link Volumes, in this Final EIS shows 550 passenger boardings and 1,410 alightings at this station during the a.m. two hour peak period. Figure 3-10, 2030 Daily Boardings, Alightings, and Link Volumes, shows 5,440 daily boardings and alightings.

Life of the Land Comment 23

The Project will serve the Hickam Air Force Base with feeder bus service. The routes are shown in Appendix D, Bus Transit Routes, in the Final EIS. This service is included in the ridership forecasting presented in the Draft and Final EISs. The service on-base is not available to the general public. Due to the feeder bus system, a spur was not included in the Project.

Life of the Land Comment 24

A spur line to Hickam Air Force Base is not part of the Project. Hickam Air Force Base will be served by the Pearl Harbor Naval Base fixed guideway station with feeder buses running between the fixed guideway station at the Naval Base and the Air Force Base. Figure 3-9, 2030 A.M. Two Hour Peak Period Boardings, Alightings, and Link Volumes, in this Final EIS shows 550 passenger boardings and 1,410 alightings at this station during the a.m. two hour peak

period. Figure 3-10, 2030 Daily Boardings, Alightings, Link Volumes, shows 5,440 daily boardings and alightings. Due to the feeder bus system, a spur was not included in the Project.

Life of the Land Comment 25

As discussed in Chapter 3, Section 3.4.6 and in Appendix B to the Final EIS, the rail line will provide access to Honolulu International Airport. There will be a rail station on airport property near the overseas parking garage just Ewa of the parking garage exist lanes, fronting Ala Onaona Street. Figure 3-10, 2030 Daily Boardings, Alightings, and Link Volumes, in this Final EIS shows daily boardings at the Honolulu International Airport Station (3,260 boardings and 3,060 alightings).

Comment [k5]: Include distance of station to physical airport

The line will not displace roadways or vehicles from the airport; hence, security will not be affected by displacement of vehicle access. As the rail line will not affect roadway access or operations, it will not cause congestion or idling of vehicles.

Life of the Land Comment 26

The Project provides a direct connection between Ewa and Honolulu via the Honolulu International Airport. Therefore, the addition of a loop at the Airport is not necessary.

Life of the Land Comment 27

The Project connects between Ewa and Honolulu via the Honolulu International Airport with stations located at Aloha Stadium, Pearl Harbor Naval Base, and Honolulu International Airport. As a result, the loop as described in your comment is not necessary.

Life of the Land Comment 28

The fixed guideway system will serve Honolulu International Airport with a station directly located on airport property, as described in response to Comment 25 (above). Figure 3-9, 2030 A.M. Two Hour Peak Period Boardings, Alightings, and Link Volumes, in this Final EIS shows 380 passenger boardings and 1,330 alightings at this station during the a.m. two hour peak period. Figure 3-10, 2030 Daily Boardings, Alightings, Link Volumes shows 3,260 boardings and 3,060 alightings at this station.

Life of the Land Comment 29

The Purpose and Need of this Project is discussed in Section 1.7 and 1.8 of the Final EIS. Any questions about Airport plans to provide shuttle service around the airport should be directed to the Hawaii State Department of Transportation Airports Division.

An alignment mauka of the Airport Viaduct was evaluated in the Alternatives Analysis. There is sufficient space for an elevated guideway; however, transfer of riders to the Honolulu International Airport is difficult and the ridership projections for the alignment are the lowest figures of the evaluated alignments.

Life of the Land Comment 30

According to Table 2-8, Locations and Capacity of Park-and-Ride Facilities, in this Final EIS, there will be 600 spaces at the Aloha Stadium Park-and-Ride facility. The travel demand forecasting model estimated projected demand at guideway stations and these estimates are for year 2030 (Table 3-22 in the Final EIS). Design for all Project stations is currently in the preliminary design stage. All coordination letters can be found in Appendix F of the Final EIS.

Life of the Land Comment 31

At-grade operation would require a fenced right-of-way throughout the alignment. Cross-streets and local access would preclude at-grade operation adjacent to Nimitz Highway in the Iwilei area. Please see response to Comment 1 for a discussion of the effects of an at-grade system.

Life of the Land Comment 32

Lanes along Nimitz Highway could not be used for a rail line. One of the requirements of this Project is to operate in exclusive right-of-way. Using lanes on Nimitz Highway would create pedestrian-vehicle conflicts. In addition, reducing the number of travel lanes would worsen congestion.

Comment [k6]: This is still unclear

Comment [MB7]: Whose requirement?
Reference.
The Project
No edit required
Completed

Life of the Land Comment 33

A future rail line and park and ride could be constructed to Sand Island but it is not part of this Project. However, the Project does not include a rail line to Sand Island or a park-and-ride in this area. The Project travels along Dillingham Boulevard and transitions to Nimitz Highway at Kekaulike Street, which is Koko Head of Sand Island.

Life of the Land Comment 34

A below ground route on Nimitz Highway was never evaluated. Since Nimitz Highway runs along the water front, a below ground route would be below the water line, which would add significant cost to construction. Table 5-2 in the Alternatives Analysis Report shows the cost of a below ground route through Chinatown along King Street would cost $1,900 million in 2006 dollars (the year the alternative was evaluated) for just that segment between Iwilei and UH Manoa. This was the most expensive alignment evaluated between Iwilei and UH Manoa. The ideal above ground alignment studied in this area was estimated to cost $1,230 million in 2006 dollars.

Life of the Land Comment 35

An alignment along Ala Moana Boulevard was considered during early alternative screening and eliminated because of view and parkland impacts.

Life of the Land Comment 36

An alignment along Ala Wai Boulevard is discussed in the Alternatives Screening Memo. This report states that the aesthetic impact of an aerial structure along Ala Wai Boulevard and the Ala Wai Canal would be severe. As a result, it was not considered further as part of the Alternatives Analysis phase.

Life of the Land Comment 37

The Screening Memo discusses the routes that were examined between Ala Moana Center and UH Manoa. All of the routes considered were elevated. This area of the corridor is very congested and an at-grade alignment would have required removal of traffic lanes, which would have resulted in increases in traffic congestion.

Comment [k8]: Explain why these were not chosen/suitable.

The Project will serve the UH Manoa campus with feeder bus service transferring at Ala Moana Center. The routes are shown in Appendix D in this Final EIS. This service is included in the ridership forecasting presented in the Draft and Final EISs, Section 3.4.2, Effects on Transit. Additionally, Table 3-29 in this Final EIS shows that the potential rail extensions to West Kapolei, Salt Lake Boulevard, Waikiki, and UH Manoa would increase fixed guideway ridership by approximately 25 percent in addition to 116,000 ridership estimated for the Project.

Life of the Land Comments 38 and 39

City Council Resolution 08-261 identified the Airport Alternative from East Kapolei to Ala Moana Center as the preferred alternative. Table 3-29 in this Final EIS shows that the potential extensions to West Kapolei, Salt Lake Boulevard, Waikiki, and UH Manoa would increase fixed guideway ridership by approximately 25 percent in addition to 116,000 ridership estimated for the Project. Enhanced bus service from Ala Moana Center to Waikiki would be provided until the fixed guideway extensions are implemented. Projected transit ridership with the future extensions (West Kapolei, Salt Lake Boulevard, UH Manoa, and Waikiki) are provided in Table 3-29 of the Final EIS.

Life of the Land Comment 40

The fixed guideway Project will provide greater transportation options. Currently, people on Oahu can travel by private automobile, TheBus, bicycle, or walking. The fixed guideway Project will add another option. Since the fixed guideway vehicles would be completely separated from roadway traffic operations, the Project would provide higher transit service reliability compared to the No Build Alternative.

Life of the Land Comment 41

After completion of construction, the Project will not decrease or increase regional population or the number of jobs; however, it will influence the distribution, rate, density, and intensity of development in the study corridor. Without the Project, growth is more likely to be

dispersed outside of the study corridor, including in undeveloped areas of Central and North Oahu.

Life of the Land Comment 42

As described in Section 2.5.10, Project Phasing, and further in Section 8.6.9, Construction Phasing, in the Final EIS, to support phased opening, the first construction phase must be connected to a maintenance and storage facility, which requires considerable space. No location has been identified closer to Downtown with sufficient available space to construct a maintenance and storage facility; therefore, construction will begin between East Kapolei and Leeward Community College The single Project will be constructed in phases to accomplish the following:

- *Match the anticipated schedule for right-of-way acquisition and utility relocations.*
- *Reduce the time that each area will experience traffic and community disturbances.*
- *Allow for multiple construction contracts with smaller contract size to promote more competitive bidding.*
- *Match the rate of construction to what can be maintained with local workforce and available financial resources.*
- *Balance expenditure of funds to minimize borrowing.*

The portion of the corridor in the Ewa direction of Pearl Highlands is less developed than the areas in the Koko Head direction. Right-of-way can be obtained more quickly at the west end of the Project; therefore, overall project construction can begin earlier, resulting in lower total construction costs. Construction is planned to continue uninterrupted in the Koko Head direction from Pearl Highlands to Aloha Stadium, Kalihi, and finally to Ala Moana Center.

As portions of the Project are completed, each will be opened incrementally so that system benefits, even if limited during the initial phases, will be realized prior to completion of construction of the entire Project.

Ridership numbers would be higher if construction started on the Koko Head end of the line, however, the lack of available space for a maintenance and storage facility on that end of the corridor makes such phasing unfeasible. Figure 3-9, 2030 A.M. Two Hour Peak Period Boardings, Alightings, and Link Volumes, and Figure 3-10, 2030 Daily Boardings, Alightings, and Link Volumes, in this Final EIS show ridership on the Project. These figures show peak period and daily ridership totals traveling Koko Head-bound and Ewa-bound once the entire Project is in operation.

Life of the Land Comment 43

The Project is focused exclusively on the construction and implementation of rail transit service, which is analyzed in the EIS. However, as mentioned in Section 4.19.2 in this Final EIS, transit-oriented development (TOD) would be expected to occur in Project station areas as an indirect effect of the Project.

The increased mobility and accessibility the Project will provide would increase the desirability and value of land near the stations, thereby attracting new real estate investment nearby (in the form of TOD). Planning and zoning around station areas will be established and conducted by the City's Department of Planning and Permitting under a process covered by the City's new TOD Ordinance 09-4.

Life of the Land Comment 44

As discussed in Section 4.19.2, Indirect Effects, in this Final EIS, after completion of construction, the Project will not decrease or increase regional population or the number of jobs; however, it will influence the distribution of development.

Life of the Land Comment 45

The Project will not change any zoning or other development rights. Questions pertaining to development rights should be directed to the Department of Planning and Permitting.

Any changes to zoning or other development rights near the stations will be determined by the City Council.

Life of the Land Comment 46

According to Section 4.19.2, Indirect Effects, in this Final EIS, experience in other cities indicates that property sales values increase by between $60 to $2,300 for every 100 feet closer to a transit station, see Table 4-38, Rail System Benefits on Real Estate Values, in this Final EIS. The effect cannot be isolated from other market forces; therefore, the precise effect of the transit system cannot be determined.

Life of the Land Comment 47

Transit systems in other locations cannot be directly compared to the Project and its effects to specific historic districts located in Honolulu.

Life of the Land Comment 48

Effects of projects built outside of Honolulu were not evaluated in this EIS.

Life of the Land Comment 49

Comment [eaz9]: Please consider CEQ's 40 Most Asked Questions in the response. It is reasonable to expand more on this question, but explain the conditions and uncertainties that the review was made.

18. **Uncertainties About Indirect Effects of A Proposal.** How should uncertainties about indirect effects of a proposal be addressed, for example, in cases of disposal of federal lands, when the identity or plans of future landowners is unknown?
A. The EIS must identify all the indirect effects that are known, and make a good faith effort to explain the effects that are not known but are "reasonably foreseeable." Section 1508.8(b). In the example, if there is total uncertainty about the identity of future land owners or the nature of future land uses, then of course, the agency is not required to engage in speculation or contemplation about their future plans. But, in the ordinary course of business, people do make judgments based upon reasonably foreseeable occurrences. It will often be possible to consider the likely purchasers and the development trends in that area or similar areas in recent years; or the likelihood that the land will be used for an energy project, shopping center, subdivision, farm or factory. The agency has the responsibility to make an informed judgment, and to estimate future impacts on that basis, especially if trends are ascertainable or potential purchasers have made themselves known. The agency cannot ignore these uncertain, but probable, effects of its decisions.

Section 4.8.3, Environmental Consequences and Mitigation [Visual and Aesthetic Conditions] in this Final EIS discusses shade and shadow effects of the system.

According to the Federal Transit Administration's Safety Management Information Statistics for 1997, the most recent data available in the Transportation Research Board (TRB) Report "Improving Transit Security," there was one serious offense for every one million passenger miles carried on rail. There is a need for security on transit systems, just as there is a need for police and other security in all aspects of modern society, but there is no evidence that crime rates associated with transit are any higher than for society in general. Crime rates on transit systems are correlated closely with crime rates in the neighborhoods within which the stations are located (e.g., "Crime in public transit systems: An environmental design perspective", Adele Pearlstein and Martin Wachs).

Life of the Land Comment 50

The majority of the system will be located in roadway medians. It will not be enclosed in barbed wire.

Life of the Land Comment 51

Several fixed guideway stations would be located at or near existing or planned bicycle facilities. Many bicycle lanes (planned by the City or State) could connect to fixed guideway stations. Each station would have facilities for parking bicycles, and each guideway vehicle would be designed to accommodate bicycles, as regulated by a bicycle policy to be developed by the City. Locations where potential effects on bicycle facilities could occur are shown in Table 3-25, Summary of Potential Effects on Bicycle and Pedestrian Systems due to Fixed Guideway Column Placement, in this Final EIS.

Life of the Land Comments 52

Public involvement (e.g., conducting public meetings, providing project information, and requesting public comments,) is an integral and essential part of the project planning process. Guidelines set forth by NEPA, and Chapter 343 of the Hawaii Revised Statutes stipulate that public involvement be carried out on large-scale projects such as the rail project. Thus, a broad range of print and visual media, including presentations, was employed to reach multiple population segments and is described further in Chapter 8 of the Final EIS.

Life of the Land Comments 53

The project team does not have information of the expenditures of other government-funded entities.

Life of the Land Comment 54

The Project will provide high-capacity transit service between East Kapolei and Ala Moana Center. The Project will connect multiple activity centers, provide cost-effective transit

user benefits, and meet the Purpose and Need for the Project. This Project provides significant passenger capacity, which could be easily increased in the future by adding additional vehicles or decreasing headways. As a result, this Project will increase the time until another major transit upgrade is needed.

Life of the Land Comment 55

Ridership projections for the forecast year of 2030 have been developed using a travel demand model calibrated and validated to current year (year) conditions. The model is based upon a set of realistic input assumptions regarding land use and demographic changes between now and 2030, and expected transportation levels of service on both the highway and public transit system. Based upon the model and these key input assumptions, approximately 116,000 riders per day are expected to use rapid transit system on an average weekday in 2030. Since the Draft EIS, the travel demand model has been refined by adding an updated air passenger mode (which forecasts travel in the corridor related to passengers arriving or departing at Honolulu International Airport), defining more realistic drive access modes (driving alone or carpooling) to Project stations and recognizing a more robust off-peak non-home based direct demand element (trips that do not originate at home) based on travel surveys in Honolulu.

Ridership is projected to reach 116,000 in 2030. This figure includes over 40,000 passengers who would otherwise have had to drive on the roadways. The forecasts show 88,000 riders when the full system opens in 2019. Honolulu is one of the first projects in the country to design and undertake an uncertainty analysis for this type of travel forecast. The uncertainty analysis evaluates the variability of the forecast by establishing likely upper and lower limits of ridership projections. FTA has worked closely with Honolulu during this work effort. A variety of factors were considered in the uncertainty analysis, ranging from variations in assumptions regarding the magnitude and distribution patterns of future growth in the Ewa end of the corridor, to the impact of various levels of investment in highway infrastructure, to the expected frequency of service provided by the rapid transit system, to park-and-ride behavior with the new system in place, and to such things as the implications on ridership of vehicle and passenger amenities provided by the new guideway vehicles. Given all the factors considered, the anticipated limits for guideway ridership in 2030 are expected to be between 105,000 to 130,000 trips per day.

Life of the Land Comment 56

The excise tax is regressive and applied to all transactions. The General Excise and Use Tax (GET) is discussed in Section 6.3.2, Proposed Capital Funding Sources for the Project.

Life of the Land Comment 57

Section 4.18.6, Construction Energy Consumption, indicates that approximately 7.5 trillion BTUs will be required to construct the Project.

Life of the Land Comment 58

As shown in Table 3-18, Islandwide Daily Transit Boardings and Trips for Existing Conditions, No Build Alternative, and the Project, in this Final EIS in 2030, the fixed guideway would carry approximately 116,000 persons daily or approximately 36 million riders per year. Section 4.18.6 indicates that approximately 7.5 trillion BTUs will be required to construct the Project.

Life of the Land Comments 59, 60, and 61

The energy consumed could be from multiple sources. However, assuming all energy is generated from oil, the Project would have a carbon equivalence of about 20 metric tons of carbon per billion BTUs consumed (U.S. Department of Energy, Transportation Energy Data Book). Using the above values, approximately 150 thousand metric tons of carbon equivalence would be generated from construction.

Life of the Land Comments 62, 63, 64, and 65

The energy required to construct and operate the system is presented in this Final EIS. Section 4.11, Energy and Electric and Magnetic Fields, Table 4-21, 2030 Summary of Average Daily Transportation Energy Demand, indicates that 1,690 million BTUs will be consumed daily in 2030 to power the Project, while the daily roadway energy consumption will decrease by 3 million BTUs daily in 2030 as a result of the operation of the system.

The energy consumed could be from multiple sources. However, assuming all energy is generated from oil, the Project would have a carbon equivalence of about 20 metric tons of carbon per billion BTUs consumed (U.S. Department of Energy, Transportation Energy Data Book). Project construction would consume approximately 210 million BTUs per annual rider. Using the estimated energy calculation provided in Comment 58 (above), construction would generate about 4 metric tons of carbon equivalence per annual rider.

Life of the Land Comment 66

The energy mix for electricity generation will depend on HECO's power production. The State of Hawaii has established a goal of using renewable energy sources for 40 percent of electricity production by 2030. In 2007, 16 percent of energy production in Hawai'i was from renewable sources.

Life of the Land Comment 67

As stated in Section 2.5.2, Transit Technology, in this Final EIS, the system will be powered by electricity.

Life of the Land Comment 68

The Draft EIS identified estimated traffic volumes for Year 2030. Traffic is expected to grow with or without the Project. However, as indicated in Chapter 3, Table 3-14 of the Draft EIS (Section 3.4.1), "VMT (vehicle miles travelled), VHT (vehicle hours travelled), and VHD

(vehicle hours of delay) are projected to decrease under each Build Alternative as compared to the No Build Alternative." The Final EIS shows an 18 percent decrease in VHD with the Project compared to without (Table 3-14, Vehicle Miles Traveled, Vehicle Hours Traveled, and Vehicle Hours of Delay—2007 and 2030 No Build Alternative and the Project). The use of cars in the next 10 and 20 years will be less with the Project than if the Project were not constructed.

Life of the Land Comment 69

Section 4.8 in this Final EIS evaluates visual effects of the Project. It is not possible to calculate the specific number of residential units that would be affected in a particular way by the Project. Because it is an elevated guideway, views below and above the guideway would still be available.

Life of the Land Comments 70 and 71

The transit system would provide a transportation alternative to residents. It is not planned to change the rate of population growth on Oahu. As described in Section 4.19.2 in this Final EIS, the Project would not increase or decrease regional population or the number of jobs; however, it would influence the distribution of the development, especially near transit stations. It is not possible to predict the number of people relocating to Hawaii from other states.

Life of the Land Comment 72

In the long-term, it may be appropriate to construct additional rail lines; however, Honolulu's population lives largely within a narrow corridor that is well served by a linear system.

Life of the Land Comment 73

The transit system would provide a transportation alternative to residents. It is not planned to change the rate of growth on Oahu.

Life of the Land Comment 74

As detailed in Chapter 1 in this Final EIS, the Project supports the planned development of Kapolei and the Ewa area. Section 4.2.2, Affected Environment [Land Use] in this Final EIS indicates the Ewa region is a rural and agricultural area that is undergoing urbanization and includes Kapolei, which is developing as Oahu's 'second city.' The terminal station in the west end of the Project is at East Kapolei. The west end of the Project would serve the area where both population and employment are forecasted to grow by approximately 400 percent. This growth is anticipated to occur with or without the Project. As described in Section 4.19.3 Cumulative Effects, current land use plans anticipate extensive development of the Ewa plain irrespective of whether or not the project is built. Thus, the project may have the effect of intensifying land use in the areas near the planned stations; however, the overall development plan will not be substantially altered by the Project. The State of Hawaii prepared an Environmental Assessment (EA) of the effects of two major transportation projects, the North-

South Road and Kapolei Parkway) in the Ewa area. The evaluated growth-inducing and cumulative impacts of the projects under the Hawaii Environmental Policy Act, see EA § 3.15.4.

Life of the Land Comment 75

The Project resulting in any substantial change in agricultural self-sufficiency would be speculative. As detailed in Section 4.2, Land Use, in this Final EIS, the Project would require some farmland that is currently owned by individuals, corporations, or agencies that plan to develop them in conformance with the Ewa Development Plan. For more detail, see Section 4.19.3, Cumulative Effects, and Section 4.2.3, Farmlands.

Life of the Land Comment 76

As stated in Chapter 4, Section 4.2.3 of the Final EIS, the 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 includes land needed 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 DTS has been working with the Navy to acquire it. If the City can acquire this site, only 47 acres of land designated as prime or of statewide importance will be used for the Project.

Many of the acres considered prime, unique or of statewide importance are located at the Hoopili site, which is one of the two options being considered for a maintenance and storage facility. The maintenance and storage facility option near Leeward Community College is the site of a former navy fuel drumming operation. This is the preferred alternative and discussions are underway with the Navy on acquiring the site. If this property is acquired for the maintenance and storage facility, the impact on agricultural lands on Oahu will be much less than is described in the Draft EIS (88 acres). Aloun Farms' headquarters, located at the Hoopili site, would not have to move. However, recognize that Aloun Farms land is leased from D.R. Horton, a developer, and is proposed for development in the future.

Life of the Land Comment 77

As detailed in Section 4.11, Energy and Electric and Magnetic Fields, in this Final EIS, total transportation energy consumption would decrease as a result of the Project. Combined with the State of Hawaii's commitment to renewable electricity production, the system would

substantially reduce the consumption of petroleum and therefore improve energy self-sufficiency.

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