DEPARTMENT OF TRANSPORTATION SERVICES

MUFI HANNEMANN
MAYOR

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

WAYNE Y. YOSHIOKA
DIRECTOR

SHARON ANN THOM
DEPUTY DIRECTOR

May 21, 2010 RT10/09-336955

Mr. Sidney C.L. Char
American Institute of Architects
119 Merchant Street, Suite 402
Honolulu, Hawaii 96813-4452

Dear Mr. Char:

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:

~~*Review of*~~ ***Project Goals and Objectives—****Comments on the Project's Purpose and Need, and associated goals and objectives, were sought during the NEPA scoping period in March and April of 2007. The Project is a transportation project and includes the goal of supporting already planned development. Additional documentation on the relationship to land use plans policies and controls are discussed in Appendix J. The Project also supports the*

Comment [k1]: In what plan? Please reference accordingly and add summary points.
Completed

goals of the Honolulu General Plan and the Oahu Regional Transportation Plan by serving areas designated for urban growth. The social, environmental, aesthetic, and economic elements listed in the comment were evaluated in Chapter 4 of the Draft and Final EISs. Separately, the Department of Planning and Permitting has developed a Transit Oriented Development Revised Ordinance of Honolulu (ROH 09-4) that will consider the Project in future land use planning.

Comment [k2]: Community planning comment not addressed.
See text insert above
Completed

Comment [H3]: Cannot find reference to community planning in the comment letter.
See text insert above
Completed

The following Project goals are shown in Table 1-4 of the Final EIS:

- *Improve corridor mobility.*
- *Improve corridor travel reliability.*
- *Improve access to planned development to support City policy to develop a second urban center.*
- *Improve transportation equity.*

In addition to the stated goals of the Project, the FTA evaluation will require the Project to address the five elements mentioned in the comment as part of the New Starts funding program. Those are also addressed in the Final EIS as part of the Evaluation of the Project in Chapter 7.

Comment [k4]: These do not address environmental benefits or operating efficiencies from the comment.
--reference to ch 7 Completed

~~These goals correspond closely to the FTA criteria.~~ As stated in Section 4.2.3 of the Final EIS, the Project is consistent with the transportation and land use elements of adopted State and Local government plans. Cost-effectiveness is discussed in Section 7.4 of the Final EIS. As shown in Table 3-11 in Chapter 3 of the Final EIS, visitors will make up 11 percent of total daily travel in 2030. Given the importance of this market segment and potential environmental effects, visitors were recognized in the assessment of total travel demand. In addition, the selection of the Airport Alternative as the preferred alternative will allow visitors access to the high-capacity transit system for travel to or from the airport terminal.

***Visual Impacts*—*The island's unique visual character and scenic beauty was considered in the visual and aesthetic assessment presented in the Draft and Final EISs. It is acknowledged that views in Downtown and the other areas will be blocked and some views will change substantially, resulting in significant visual effects. View changes are not likely to be obtrusive in wider vistas or regional panoramic mountain and waterfront views, such as from cruise ships, where the project elements serve as smaller components of the larger landscape.*

~~Review of Project Impacts~~

As stated previously, the island's visual character and scenic beauty was considered in the visual and aesthetic assessment presented in the Draft and Final EISs. It is acknowledged that the guideway and stations will noticeably contrast with Chinatown's historic character. In addition, views in Downtown and the other areas, including protected mauka-makai views, will be blocked and some views will change substantially, resulting in significant visual effects. Protected views and vistas are identified in policy documents that govern the project corridor. These policy documents include the following: Ewa Development Plan, Central Oahu Sustainable Communities Plan and Primary Urban Center Development Plan. The protected views and vistas are ~~and include protected mauka and makai views, as well as views of prominent landmarks. The protected views and vistas are identified in Figures 4-17 to 4-19~~ of the Final EIS. ~~These figures are included in the Visual and Aesthetics Resources Technical Report (RTD 2008e).. In Section 4.8 of the Final EIS~~V~~v~~iewer group responses on the Draft EIS resulted in the refinement of the visual impact rating for several key views in Section 4.8 of the

Comment [k5]: What is meant by "protected" specifically?
COMPLETED

Final EIS. Several additional simulations and summary tables were added to illustrate project effects discussed the Draft EIS including protected mauka-makai views (see Tables 4-~~10~~ 9 through 4-14 and Figures 4-39 through 4-50). Views along major collector streets are included and described in Table 4-9 of the Final EIS. The assessment summarized in Table 4-9 acknowledges that some view obstructions and changes to views will be unavoidable and substantial. They will be most noticeable where the guideway and stations are nearby or in the foreground of views. This includes those who travel near the alignment. The degree of visual effect will vary with the alignment orientation, guideway and station height, and height of surrounding buildings and trees, along with the viewer's expectations of view quality. View changes are not likely to be obtrusive in wider vistas or regional panoramic views where the project elements serve as smaller components of the larger landscape as noted in Section 4.8. Sections 4.8.2 and 4.8.3 of the Final EIS discusses existing development along the project alignment. As noted in this section much of the project alignment is located within a predominantly urban area with dense development.

The assessment of visual effect from the Project as described in Section 4.8.3 of the Final EIS considers the existing development along the project alignment. Within the Project corridor the environment changes from rural in the Waianae end of the corridor to dense high-rise development at the Koko Head end. As part of the design process, DTS has developed specifications and design criteria to address the City's requirements for the Project that will be implemented as mitigation measures to minimize visual effects. Guideway materials and surface textures will be selected in accordance with generally accepted architectural principles to achieve effected integration between the guideway and its surrounding environment. Landscape and streetscape improvements will mitigate potential visual impacts, primarily for street-level views.

Other measures to address visual impacts of the Project are being developed through the station design and planning process. The initial station area plans and design guidelines were first developed with coordination between DTS and DPP. The next level of transit station design focuses on integrating individual neighborhood characteristics of the communities served by stations.

The following mitigation framework will be included with the Project to minimize negative visual effects and enhance the visual and aesthetic opportunities that it creates:

- *Develop and apply design guidelines that will establish a consistent design framework for the Project with consideration of local context.*
- *Coordinate the project design with City TOD planning and DPP.*
- *Consult with the communities surrounding each station for input on station design elements.*
- *Consider specific sites for landscaping and trees during the final design phase when plans for new plantings will be prepared by a landscape architect. Landscape and streetscape improvements will serve to mitigate potential visual impacts.*

Comment [k6]: Were views along major collector streets analyzed? Please address this comment specifically.
COMPLETED

Comment [k7]: Include a brief discussion of existing development and infrastructure
Completed

Section 4.8.3 of the Final EIS, Design Principals and Mitigation includes information related to the mitigation framework described above. Specifically architecture and landscape design criteria include guidelines regarding site design, materials and finishes, and lighting, which apply to stations, station areas, and the guideway.

~~Under the heading Design Principals and Mitigation of Section 4.8.3 of the Final EIS, architecture and landscape design criteria are listed that will help minimize and mitigate negative visual effects of the Project.~~

The Project has logical termini at East Kapolei and Ala Moana Center and independent utility from any extensions that may be constructed in the future. The future extensions to West Kapolei, Salt Lake Boulevard, Waikiki, and UH Manoa are discussed in the cumulative impacts sections of Chapters 3 and 4 of the Final EIS. However, the future extensions are not part of this Project; thus, they are not required to be evaluated under Chapter 343 of the Hawaii Revised Statutes and NEPA. Under NEPA, environmental analysis is only required when there is a proposed action by a Federal agency. Here, because the future extensions are not proposed for implementation at this time, they are not part of the Project studied in the Final EIS. It would be premature to undertake an environmental analysis of the extensions (beyond the cumulative impacts analysis) because they are not part of the proposed action to be taken by the City and FTA. If the future extensions are proposed for implementation ~~in the future~~, environmental analysis of the extensions and appropriate alternatives will be undertaken at that time. As seen in Table 4-13 Potential Visual Effects on Protected Views and Vistas, Kalihi to Ala Moana Center, the panoramic views from the Ala Wai Canal Promenade toward the Koolau Mountain Range are Koko Head of study area and will have no visual effect.
~~Views along the Ala Wai promenade will not be affected by the Project as summarized in (reference Final. EIS section).~~

~~It is acknowledged that t~~The Chinatown Station and guideway will be dominant features in views along Nimitz Highway and mauka views of the Koolau Mountain Range will be blocked. The visual effects of the Project in Chinatown and through the downtown ~~view effects~~ are listed in Table 4-9 and illustrated in Figures 4-30, 4-31, and 4-33 of the Final EIS. As stated above, Section 4.8.3 includes more detail on measures to minimize negative visual effect of the Project.. The design criteria for the guideway and stations as presented in Section 4.8.3 of the FEIS. One of the design criteria is to consider the historic and community context during design to reinforce the uniqueness of context or use.

Based on concerns raised by Section 106 consulting parties, preliminary effects determinations as shown in the Draft EIS were reevaluated and documented in the Honolulu High-Capacity Transit Corridor Project Historic Effects Report dated April 14, 2009. Both direct and indirect effects to historic properties were reevaluated in this report. The Project was determined to have an adverse effect to the Chinatown Historic District and no adverse effect to the Hawaii Capital Historic District. Following consultation, the State Historic Preservation ~~Division~~ Officer (~~SHPD~~SHPO) concurred with the effect determinations on the Chinatown Historic District and the Hawaii Capital Historic District. These determinations of effect and the

Comment [az8]: FTA comment addressed by including the mitigation framework text from the FEIS (Section 4.8.3)

The mitigation framework is the summary of the design criteria..

Comment [k9]: Give a summary of these criteria.
Completed

Comment [k10]: Need to address mitigation/minimization of connection with the waterfront, historic districts, and pedestrian streetscapes.
Completed

Comment [k11]: And the corresponding table
COMPLETED

Comment [az12]: Language added to refer the reader above

~~SHPD's~~ SHPO's concurrence are documented in Section 4.16 and Appendix ~~F~~ H of the Final EIS.

Protected views and vistas that are identified in the Primary Urban Center Development Plan ~~and~~that may be affected by the Project are shown in Table 4-13 of the Final EIS and locations are identified on Figure 4-19.

Station Design—*DTS has developed design criteria to address the City's visual and aesthetic requirements for the Project, which will be implemented in Final Design as mitigation measures, such as those discussed previously in this letter, to minimize visual effects. Guideway materials and surface textures will be selected in accordance with generally accepted architectural principles to integrate the guideway with its surrounding environment. Landscaping and streetscape improvements will mitigate potential visual impacts. Under the heading Design Principals and Mitigation of Section 4.8.3 of the Final EIS, specific environmental, architectural, and landscape design criteria are listed that will help minimize negative visual effects of the Project.*

In addition, the ongoing station area planning process involves numerous aspects of transit system design. The process addresses design and planning issues in an integrated manner and focuses on the characteristics and preferences of the communities adjacent to each station.

~~Protected views and vistas that are identified in the Primary Urban Center Development Plan and may be affected by the Project are shown in Table 4-13 of the Final EIS and locations are identified on Figure 4-19.~~

Safety and Security—*The majority of the system will travel in roadway medians. The~~se~~, areas below the guideway will continue to carry automobile traffic. The portions of stations at ground level are access buildings similar ~~and will be similar~~ to other public areas, ~~within adjacent to any building or structure which~~and will include access stairways, escalators and elevator banks with the possibility of space for small commercial uses. Elevated station platforms will have open views to the surrounding communities. All stations, park-and-ride facilities, and vehicles will include security cameras that are monitored at all times of operation, audible and visual messaging systems, and an intercom link to the system operations center. Security personnel will also patrol the system. Interior and safety lighting will be provided at all stations and park-and-ride facilities. ~~Security measures, including cameras, and will be implemented provided at all stations. Details of the system security are still in development. DTS, with assistance from the Honolulu Police Department, is developing a security plan for transit facilities. These Security measures will be part of the final design and operating plans for each station.~~*

As discussed in the Final EIS Section 2.5.4 Safety and Security Measures, a project-specific Safety and Security Management Plan has been developed in accordance with FTA requirements to define the safety and security activities and methods for identifying, evaluating, and resolving potential safety hazards and security vulnerabilities of these systems. It establishes responsibility and accountability for safety and security during the Preliminary

Comment [k13]: Appendix F doesn't include specific concurrence for these ('Chinatown Historic District' and 'Hawaii Capital Historic District' so wording needs to change.
Completed

Comment [k14]: Consider separating out Station Design and Safety and Security as two different sections.

Completed

Comment [k15]: Provide a summary of these.
Completed

Comment [k16]: Include type and location. "any building" is too general.
COMPLETED

Comment [k17]: And what else?
COMPLETED

Comment [k18]: And will be disclosed by which method when they are finalized? Please specify
Text added Completed

Engineering, Final Design, construction, testing, and start-up phases of the Project. The Honolulu Police Department, the Honolulu Fire Department, the Department of Emergency Management, and the Honolulu Emergency Services Department have been involved in preparing and implementing the plan. The plan addresses public safety and security concerns, including threats and hazards associated with the Project, specific issues that were identified through community outreach efforts, and design and architectural details to enhance safety. Section 4.6.3 of the Final EIS describes potential safety and security issues once the Project is operating. The Section discussion notes that to reduce the potential for crime, the FTA requires the development and implementation of a Safety and Security Management Plan (SSMP) for new fixed guideway projects (49 CMR CFR 633). The SSMP will address the technical and management strategies for analyzing safety or determining security risks throughout the Project's life cycle. In addition, RTD has developed specifications and Design Criteria to address the City and County of Honolulu's requirements for the Project. Chapter 25 of the Design Criteria is dedicated to the safety and security of the system.

The transit system will comply with Americans with Disabilities Act (ADA) requirements. be ADA accessible. Elevators and escalators will be provided at all stations. Also, level boarding will be provided to trains; therefore, stairs or lifts, as used on buses, will not be required.

***Alternatives Considered**—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, the screening process considered 15 different 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.

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 affect could potentially affect more burial sites more burialpotential burials sitesthan any of the other alternatives considered. The alignment with an at-grade operation Downtown and a tunnel under King Streetunder King Streetthrough the Capital Historic District, was not selected because of in addition to 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 more thanan additional $300 million more .than the least expensive alternative.

Comment [k19]: This is not correct. This is from final guidance found in a Federal Register Circular from June 21, 2007 for projects covered under 49 CFR part 633. Please include correct reference. COMPLETED

Comment [k20]: Is this the same tunnel and at-grade operation as referred to in the previous paragraph? The same language should be used. COMPLETED

Comment [k21]: This sentence is unclear. If we are stating that alternatives were not selected then we need to specify all of the reasons why, which could be controversial. Cost and traffic impacts are not environmental impacts.
LZ: Cost and traffic impacts are legitimate impacts evaluated in EISs. COMPLETED

Comment [k22]: The cost should be compared to the preferred alternative and not the least expensive alternative and perhaps this point should be removed if cost efficiency cannot be justified.

Comment [H23]: The cost estimate for the tunnel is low, so the $300 million is used as a reference to the order of magnitude (it would be much higher now, though we can't develop a specific figure now). Ther reference to the alternative is removed. Completed

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 ~~see Final EIS 2.2.2 Alternatives Considered in the Alternatives Analysis,~~ 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 Project will run at three minute headways. However, ~~The planned~~ three-minute headways ~~on the guideway~~with an at-grade system ~~will~~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*

Comment [k24]: Why? Please explain.

Comment [H25]: Explanation follows the comment.
Completed

Comment [k26]: Which system? At grade or Project?
LZ – Project, text edited. COMPLETED

Comment [k27]: Are there other notable impacts of an at-grade system that can be summarized? Noise and vibration?

Completed

Comment [k28]: Reword this to "signal interruption for travel times where signal priority doesn't exist"
The point is that traffic regulations apply to at-grade. They do not to elevated. COMPLETED

Comment [k29]: Reword these sentences. Confusing.
COMPLETED

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 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. 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.*

~~***System Capacity, Speed, and Reliability****—The short, 200-foot (or less) blocks (or less) 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 five5 minute headways. Based on travel forecasts, the Project should support will need to carry approximately 8,000 passengers by 2030. Moreover, the system 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 preserve 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~~

Comment [k30]: How can something be closed that is theoretical/has not been constructed?
COMPLETED

Comment [k31]: See previous comment. Language should reflect that this is a theoretical system.
COMPLETED

Comment [k32]: Which system? At grade or Project?
LZ – Project, text edited.
This is addressed above Completed

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) along with other vehicles, and potential conflicts with other at-grade activity, such as 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—With tThe 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 , the short 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 also require removal of two or more existing traffic lanes on affected streets. This effect is significant and would exacerbate congestion for those who choose to drive. 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 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). That is because 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.

The An at-grade light rail,its continuous tracks in street, would will create major impediments to turning movements, many of which would have to be closed to eliminate a serious crash hazard. Even where turning movements are designed to be accommodated, at-grade systems experience significant 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. This potential would be especially high in the Chinatown and Downtown neighborhoods, where the number of pedestrians is very 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 impacts to sensitive cultural resources. In addition, the extra roadway lanes utilized by an at-grade 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

Comment [k33]: Are there other notable impacts of an at-grade system that can be summarized? Noise and vibration?

This is addressed above Completed

Comment [k34]: Reword this to "signal interruption for travel times where signal priority doesn't exist"
The point is that traffic regulations apply to at-grade. They do not to elevated.
Completed

Comment [k35]: Reword these sentences. Confusing.

This is addressed above Completed

Comment [k36]: How can something be closed that is theoretical/has not been constructed?
LZ: This sentence is written about what would happen and what would be required with an at-grade system. This is addressed above
Completed

Comment [k37]: See previous comment. Language should reflect that this is a theoretical system.

~~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 additional analysis.

Cost Effectiveness*—The resources and costs associated with construction and operation on a lifecycle scale of an elevated system have been considered in project planning. The cost effectiveness of the Project is presented in Section 7.4 of the Final EIS. The comparison of cost effectiveness of the various alternatives considered is presented in Alternatives Analysis Report (DTS 2006b) and summarized in Section 2.2.2 of the Final EIS. Tables 2-2 and 2-3 summarize the results of the Alternatives Analysis phase, including costs and environmental effects. As stated in Section 2.2.2, a transportation system management (enhanced bus service) alternative, two managed lane alternatives, and three fixed guideway alternatives were evaluated in the Alternatives Analysis Report based on their effectiveness in meeting the Project's goals and objectives related to mobility and accessibility, supporting planned growth and economic development, constructability and cost, community and environmental quality, and planning consistency. Energy use was also considered during the Alternatives Analysis phase. The analysis demonstrated that enhanced bus service would not meet the Purpose and Need for the Project. Additionally, this alternative would have required more transportation system energy and generated more air pollutant emissions than a fixed guideway alternative. The Managed Lane Alternative would have generated the greatest amount of air pollution and required the greatest amount of energy for transportation use. The Managed Lane Alternative would also have provided very little transit benefit at a high cost. The fixed guideway alternative will provide the greatest ~~As evaluated in the theis Alternatives Analysis, an underground system would be the least cost-effective option.~~ energy reduction. Further, the cost per hour of transit-user benefits would be between 160 and 240 percent less than the Managed Lane Alternative.*

Comment [k38]: This paragraph does not adequately address the comment. What were the findings of the AA? Also, this does not address electrical consumption and the 7x more energy comment. Need to add more explanation of why the preferred alternative is cost effective. Discuss sustainable transit design. Doesn't address the overhead lines recommendation.
LZ: edits made
COMPLETED

~~Recommendations~~Rail Technology*—The Project's chosen technology ensures speed, reliability, and efficiency and is the only one that allows an automated, driverless system. As such, it will have a lower operating cost and support~~attract~~ the highest ridership of all technologies examined. It may be operated above, at, or below grade. The requirement is that the system operates in an exclusive right-of-way. As stated previously, to preserve system speed, safety ~~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 a number of areas along the alignment, including in and around Downtown, where roadways abut existing development.~~there is no existing right-of-way does not exist to operate such a system at grade.~~*

~~*Placing any part of the system in mixed right-of-way would affect the speed and reliability of the entire system.*~~

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 ~~and will conclude the environmental review process for this Project~~.

Very truly yours,

WAYNE Y. YOSHIOKA
Director

Enclosure