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May 21, 2010 RT2/09-299088R

Mr. Cliff Slater
Honolulutraffic.com, Stop Rail Now
3105 Pacific Heights Road
Honolulu, Hawaii 96813

Dear Mr. Slater:

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:

Cover Letter

As described in Chapter 2 of the Final EIS, the Airport Alternative is defined as the Project, and is one of the alternatives studied in the document. The identification of the Airport Alternative as the Preferred Alternative was made by the City to comply with FTA's NEPA regulations (23 CFR § 771.125 (a)(1)). Further, FTA's NEPA regulations for projects proposed to be funded with major capital investment funds, the level of detail necessarily increases between

the Draft EIS and the Final EIS through preliminary engineering work (23 CFR § 771.123(j)). The Final EIS addresses each of the points of concern noted in your letter. Specifically, Tables 3-9 and 3-10 of the Final EIS compares existing congestion levels to future levels both with the Project and without to provide a point of reference to the reader for future conditions. These tables include traffic volumes, level-of-service, and maximum volume thresholds for individual roadways in the project corridor. Table 3-14 of the Final EIS provides a comparison of the No Build Alternative and the Project in 2030 and shows that the Project will result in an 18 percent reduction in congestion, as measured by daily vehicle hours of delay (VHD). The environmental benefits and impacts of the Project are detailed in Chapter 4 of the Final EIS. Table 4-1 provides a summary of those impacts and proposed mitigation.

An analysis of the financing of the Project is set forth in Chapter 6 of the Final EIS. Figure 6-3 illustrates forecast transit operating needs from the Highway and General Fund, which includes property tax revenues. As stated in Section 6.4.2 of the Final EIS, overall transit operating and maintenance costs (i.e., the Project, TheBus, and TheHandi-Van) are expected to increase from approximately 11 percent to 14 percent of the City's operating budget. This small increase is typically accounted for in the normal budgeting of available funds and will not by itself result in an increase in property taxes. Financial risks associated with the Project are discussed in Section 6.6 of the Final EIS. The travel forecasting model has been refined since the Draft EIS to add an up-to-date air passenger model, improved drive access module and a better presentation of non-home based direct demand trips. The results are not substantially different than those in the Draft EIS. As stated above, VHD will decrease by 18 percent with the Project versus the No Build Alternative.

The summary section of Chapter 4 in the Final EIS provides a list of technical reports that were prepared for the Project. In addition, various technical reports were used as the basis of the transportation and modeling analysis conducted for Chapter 3 of the Draft and Final EISs. These reports are available from the Department of Transportation Services and on the project website at www.honolulutransit.org.

Field Code Changed

Chapter 2 of the Final EIS also summarizes the screening and Alternatives Analysis processes that were used to identify and develop the alternatives evaluated in the Draft EIS. The detail requested is provided in the supporting reports listed as references to the Draft EIS. To quote from the FTA "Keys to Efficient Development of Useful Environmental Documents" (US DOT, 2007): The NEPA implementing regulations provide that "[e]nvironmental impact statements shall be concise, clear, and to the point, and shall be supported by evidence that agencies have made the necessary environmental analyses" (40 CFR § 1500.2(b)). This means that the impact statement itself should not contain elaborate and extensive analyses of different types of impacts, but rather, relatively brief descriptions in plain language of the results of those analyses; the brief descriptions are meant to discuss impacts associated with alternatives that were analyzed and presented in comparative form. The Final EIS explains the analysis of the various alternatives considered and environmental impacts of the proposed Project in compliance with NEPA.

According to 23 CFR § 771.130, a Supplemental EIS is prepared when the Administration determines that:

(1) Changes to the proposed action would result in significant environmental impacts that were not evaluated in the EIS; or

(2) New information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS.

Neither of these instances is applicable to the Honolulu High-Capacity Transit Corridor Project or demonstrated in the comment letter.

Part I – Alternatives Studied

Project scoping was conducted in two phases, as allowed for in FTA SAFETEA-LU guidance. Early scoping was completed during the Alternatives Analysis phase and NEPA scoping was completed after selection of the Locally Preferred Alternative. The process is detailed as follows. The Alternatives Analysis phase, as documented in Chapter 2 of the Final EIS, evaluated a range of modal and general alignment alternatives, including managed lanes, in terms of their costs, benefits, and impacts. The scoping process for the Alternatives Analysis involved a presentation of the viable alternatives to the public and interested public agencies and officials to receive comments on the Purpose and Need, alternatives, and scope of the analysis for the Alternatives Analysis. Scoping followed the FTA process that provides for a culling of alternatives studied in the EIS through an Alternatives Analysis. The following scoping meetings were held as part of the Alternatives Analysis phase of the Project:

- *December 13, 2005: Neal S. Blaisdell Center Pikake Room at 777 Ward Avenue in Downtown Honolulu from 2:00 to 4:00 p.m. (agency scoping meeting)*
- *December 13, 2005: Neal S. Blaisdell Center Pikake Room at 777 Ward Avenue in Downtown Honolulu from 5:00 to 8:00 p.m. (open to the public)*
- *December 14, 2005: Kapolei Middle School Cafeteria at 91-5335 Kapolei Parkway in Kapolei from 7:00 to 9:00 p.m. (open to the public)*

The scoping process initiated for the Alternatives Analysis included a variety of highway, bus and fixed guideway options for consideration. As a result of this scoping effort, the proposed Managed Lane Alternative was expanded. It was revised again during the Alternatives Analysis to improve its performance. Despite the improvements, the managed lane alternative was not able to meet the performance of the fixed guideway.

A second scoping opportunity was initiated in support of the Draft EIS in March of 2007. All meetings held were open to the public:

- *March 28, 2007: Kapolei Hale at 1000 Uluohia Street from 6:00 to 9:00 p.m.*
- *March 29, 2007: McKinley High School at 1039 South King Street from 5:00 to 8:00 p.m.*
- *April 3, 2007 at Salt Lake Elementary School at 1131 Ala Lilikoi Street from 5:00 to 8:00 p.m.*

In this later scoping effort, the public was requested to propose alternatives that would satisfy the purpose and need at less cost or with greater effectiveness, less environmental or community impact and alternatives that were not previously studied and eliminated for good cause. The only alternative that emerged that met these criteria was a fixed-guideway alternative following an alternative alignment. All reasonable alternatives that emerged from these processes were ultimately evaluated in the Draft and Final EISs. Your letter suggests that a second scoping process was held because the first scoping process was "inadequate or unsatisfactory"; that is not the case. In 2006, FTA issued guidance that stated a scoping process could be held before the Alternatives Analysis with a second scoping process held after the Notice of Intent to prepare an EIS:

According to SAFETEA-LU Environmental Review Process Final Guidance issued jointly by the Federal Highway Administration and FTA: "Certain New Starts project sponsors have advocated publishing a Federal Register notice of intent to prepare an EIS, more accurately called an "early scoping notice," and then conducting the New Starts planning Alternatives Analysis as a super-extended scoping process (so called "Option 1.5"). This option may provide an opportunity to identify and engage participating agencies…earlier, i.e., during the New Starts planning Alternatives Analysis, through the early scoping notice… Under this option, project initiation [scoping process] would occur after the New Starts planning Alternatives Analysis at the start of the environmental review process."

The FTA issued a Notice of Intent to prepare this EIS in the Federal Register on March 15, 2007. All interested individuals and organizations, as well as Federal, State, and Local agencies, were invited to comment on the Purpose and Need to be addressed by a fixed guideway transit system; the alternatives including modes, technologies and alignments to be evaluated; and environmental, social, and economic impacts to be analyzed. The alternatives evaluated in the Draft EIS are the result of the alternatives screening process and reflect comments received during the scoping process, as summarized in the Honolulu High-Capacity Transit Corridor Project National Environmental Policy Act Scoping Report *(DTS 2007). Several scoping comments were received requesting reconsideration of the Managed Lane Alternative that was considered and fully evaluated during the Alternatives Analysis phase and found to perform substantially less effectively than the fixed guideway alternative that was selected for further development in the Locally Preferred Alternative. Because no new information was provided that would have changed the findings of the Alternatives Analysis regarding the Managed Lane Alternative, it was not included in the Draft EIS for further consideration. Had information been provided that demonstrated greater effectiveness, the managed lane alternative would have been reconsidered in the Draft EIS.*

Regarding alternatives studied, the Alternatives Analysis fully evaluated a reversible Managed Lane Alternative and documented that it performed poorly compared to the Fixed Guideway Alternative on a broad range of metrics. Based on public comments received on the Draft EIS, additional information, as summarized from the Alternatives Analysis Report *and* Honolulu High-Capacity Transit Corridor Project Alternatives Screening Memorandum, *has been added to Chapters 2 and 8 of the Final EIS to explain why this alternative was rejected. Both the*

Alternatives Analysis Report and Screening Memorandum were available to the public. The following is a quote from Chapter 8, Section 8.6.12, of the Final EIS:

> *"A number of commenters stated that the alternatives studied did not properly address other options for the corridor. In particular, there was a concern that the Managed Lane Alternative was not included in the Draft EIS as an alternative."*

The process of alternatives screening and selection is discussed in Chapter 2 and in Section 8.6.1 [of the Final EIS]. As discussed, alternatives were developed through three general phases: (1) the FTA Alternatives Analysis process; (2) the selection of a Locally Preferred Alternative; and (3) the NEPA scoping and Draft EIS process. The initial screening of alternatives is documented in the Honolulu High-Capacity Transit Corridor Project Alternatives Screening Memorandum *(DTS, 2006a) (Screening Memorandum). The subsequent FTA Alternatives Analysis process is provided in the* Honolulu High-Capacity Transit Corridor Project Alternatives Analysis Report *(DTS 2006b) (Alternatives Analysis).*

The initial screening process considered a wide range of alternatives, including "construction of a 'managed' two-lane elevated structure for transit vehicles and potentially carpools, as well as single occupant vehicles willing to pay a congestion-based toll," as described on page S-2 of the Screening Memorandum. The screening results for the Managed Lane Alternative are discussed on pages C-4 through C-5 of this report. The analysis found that the transit mode share under the Managed Lane Alternative would hold constant with the No Build Alternative; the automobile mode share would increase; and the bike and walk mode share would decrease. Vehicle hours traveled would decrease, while vehicle miles traveled would increase slightly.

This initial screening process identified four alternatives that were presented at scoping meetings held to obtain public input. As described on page 5-2 of the Screening Memorandum, one of the alternatives recommended for further evaluation was the Managed Lane Alternative. The Managed Lane Alternative originally was described as follows:

> *"The Managed Lane Alternative would include construction of a two-lane grade-separated facility between Waiawa Interchange and Iwilei for use by buses, paratransit vehicles and vanpool vehicles (see Figure 5-1). The lanes would be managed to maintain free-flow speeds for buses, while simultaneously allowing High-Occupancy Vehicles (HOVs) and variable pricing for toll-paying single-occupant vehicles. Intermediate bus access points would be provided in the vicinity of Aloha Stadium and Middle Street. Bus operations utilizing the managed lanes would be restructured to use the Managed Lane and enhanced to provide additional service between Kapolei and other points Ewa of Downtown, through to the University of Hawai'i at Manoa."*

The scoping process resulted in the revision of this proposed alternative. As discussed on page 6-1 of the Screening Memorandum:

> *"Based on scoping comments, a second operational option was included under the Managed Lane Alternative. The initial option proposed a two-lane grade-separated*

facility between Waiawa Interchange and Iwilei which would operate as one lane in each direction at all times of the day. The second option proposes similar infrastructure, but it would operate as a reversible facility with two lanes traveling Koko Head during the morning peak period, and then reversing to travel Ewa in the PM peak period. Both operational options would include restructured and enhanced bus operations by utilizing the managed lanes to provide additional service between Kapolei and other points Ewa of Downtown, and both would be managed to maintain free-flow speeds for buses. Providing that enough capacity existed, High-Occupancy Vehicles (HOVs) and toll-paying single-occupant vehicles would also be allowed to use the facility under either scenario; however, it is possible that under the initial option (one lane in each direction), there would not be enough excess capacity to allow toll-paying single occupant vehicles and still maintain reasonable speeds. Intermediate access points would be provided in the vicinity of Aloha Stadium and the Keehi Interchange."

This alternative was further developed in the Alternatives Analysis Report, with additional features added to maximize the performance of the alternative, as discussed on page 2-4:

"The Two-direction Option would serve express buses operating in both directions during the entire day. The Reversible Option would serve peak-direction bus service, while reverse-direction service would use H-1. Twenty-nine bus routes, with approximately 93 buses per hour, would use the managed lane facility during peak hours for either option. One limited-stop route and one local route would continually operate in the managed lane. A total of 27 peak-period express routes would operate in the peak direction using the managed lane facility. Of these, three would be new express routes serving developing areas and nine would be new routes developed for exclusive use of the managed lane. The nine new managed lane express bus system routes would originate from Kalaeloa, Kapolei, or Central Oahu and terminate at the Alapai Transit Center, Waikiki, or UH Manoa. Other peak-period, local and limited-stop routes would follow a route similar to the current structure but would use the managed lane for the line-haul portion of the route.

"A toll structure has been developed that ensures that the managed lane facility would operate to maintain free-flow speeds for buses. To maintain free-flow speeds in the Two-direction Option, it may be necessary to charge tolls to manage the number of HOVs using the facility. For the Reversible Option, three-person HOVs would be allowed to use the facility for free, while single-occupant and two-person HOVs would have to pay a toll."

As discussed on page 3-8 of the Alternatives Analysis Report, the enhanced bus system would include an increased fleet size, estimated at 321 buses beyond the existing fleet for the two-direction managed lane facility and 381 buses for the reversible managed lane facility, to provide a sufficient fleet to ensure that the alternative would function as planned.

1. Reversible Managed Lane Alternative

The Alternatives Analysis Report estimated total capital and operating costs for the Managed Lane Alternative. As discussed on page 2-16, capital costs for the Managed Lane

Alternative were estimated to range between $3.6 and $4.7 billion, of which $2.6 to $3.8 billion would be for construction of the managed lanes. Transit operating costs for the Managed Lane Alternative would range between approximately $251 and $261 million as a result of additional buses that would be put in service under that alternative. These costs do not include the cost of maintaining the managed lane facility. Capital costs for the Fixed Guideway Alternative, including bus system costs, would range between $5.2 and $6.1 billion for the Full-corridor Alignments, of which $4.6 to $5.5 billion would be for the fixed guideway system. The costs would be $4.2 billion for the 20-mile Alignment, of which $3.6 billion would be for the fixed guideway system. Operating costs for the Fixed Guideway Alternative in 2030, in 2006 dollars, would be approximately $192 million. The total operating costs for the Fixed Guideway Alternative, including the bus and fixed guideway, would range between approximately $248 and $256 million.

The capital cost of the Managed Lane Alternative thus is potentially somewhat lower than the 20-mile Fixed Guideway Alternative and significantly lower than the Full-corridor Alternative. Operating costs would be slightly higher. These cost factors were considered in conjunction with other project goals in evaluating the alternatives.

With respect to transit travel time benefit, the Managed Lane Alternative options would improve some trips that were particularly well-served by the managed lanes. In general, the Managed Lane Alternative would increase transit travel times by increasing traffic on the overall roadway system and creating more delay for buses. The H-1 Freeway leading up to the managed lanes would become more congested because cars accessing the managed lanes would increase traffic volumes. Significant congestion would occur where the managed lanes connect to Nimitz Highway at Pacific Street near Downtown. Much of the time saved in the managed lane itself would be negated by the time spent in congestion leading up to the managed lane, as well as exiting the lanes at their downtown terminus. Furthermore, areas that are not directly served by the managed lane would not experience much positive change from the No Build Alternative. As discussed on page 3-14, the Alternatives Analysis Report found that, "although the Managed Lane Alternative would provide some travel-time improvement for certain areas, it has significant limitations with regard to improving travel times or transit service for a broader customer base.

As discussed on page 3-17, transit ridership would increase only 5.3 to 6.4 percent over the No Build Alternative, a small increase compared both to the cost of the Managed Lane Alternative and the increase that would result from the Fixed Guideway Alternative, which would increase transit ridership by 21 percent for the 20-mile alignment.

The volume of peak-hour vehicles in key areas would actually increase under the Managed Lane Alternative compared to the No Build Alternative. As discussed on page 3-27, the Fixed Guideway Alternative would reduce the number of vehicles by 3 to 12 percent.

With respect to the goal of providing equitable transportation solutions that meet the needs of lower-income transit-dependent communities, the Alternatives Analysis Report noted that the Managed Lane Alternative, "would not substantially improve service or access to transit for transit-dependent communities, as buses that use existing HOV facilities would be routed to

the managed lane facility but would continue to be affected by congestion in other parts of their routes. Arterial congestion would increase in the study corridor with the Managed Lane Alternative, making bus access to the managed lanes less reliable" (page 6-8).

The Alternatives Analysis Report also considered consistency with existing land use planning and regional transportation planning. On page 6-13, the report concluded that the Fixed Guideway Alternative, "best serves the areas of Oahu that are designated for future growth and development. It is also the only alternative that is consistent with regional transportation system planning defined in the 2030 Oahu Regional Transportation Plan *(OMPO 2006a)."*

The evaluation of alternatives inevitably involves trade-offs. As stated on page 6-13 of the Alternatives Analysis Report, the "greatest trade-off among the alternatives is between the transportation benefit provided and the cost to implement alternatives….The Managed Lane Alternative provides slightly more benefit [than the Transportation System Management (TSM) alternative, which had little effect on traffic], but at a substantial cost. While the Fixed Guideway Alternative would have the highest cost, it is also the only alternative that would provide a substantial transportation benefit, measured both by the benefit to transit users and in the reduction in congestion compared to the No Build Alternative."

The November 2006 Alternatives Analysis Report provided information about all alternatives considered, including the Managed Lane Alternative. ~~The Alternatives Analysis findings are summarized in Table 2-2 in Chapter 2 of the Final EIS. The Managed Lane Alternative is discussed in Section 2.2.2 of this Final EIS.~~ As stated in the Summary of the Alternatives Analysis Report, "the Managed Lane Alternative would provide some travel time improvements between selected origins and destinations that are well served by the facility, but in many cases the travel time savings experienced is offset by the increased congestion experienced before entering and upon existing the facility." The summary also states that the Managed Lane Alternative would "generate the greatest amount of air pollution, require the greatest amount of energy for transportation use, and would result in the largest number of transportation noise impacts. It would provide little community benefit, as it would not provide substantially improved transit access to the corridor." Additionally, Table 6-3 in Chapter 6 of the Alternatives Analysis compares each of the alternatives studied in the Alternatives Analysis, including the Managed Lane Alterative, in relation to project goals and objectives. This table shows that the Fixed Guideway Alternative performs the best when considering all ~~of~~ the objectives related to the goals of improving corridor mobility and improving transportation equity.

The Alternatives Analysis findings are also summarized in Table 2-2 in Chapter 2 of the Final EIS. The Managed Lane Alternative is discussed in Section 2.2.2 of this Final EIS. As stated in the Final EIS and supported by the lengthy analysis that preceded the preparation of the Draft EIS, the Managed Lane Alternative was not pursued because the Managed Lane Alternative would not have achieved project goals and objectives, would not result in substantially fewer environmental impacts, and would not be financially feasible. For all of these reasons, it was not advanced to consideration in the EIS. ~~The decision to eliminate the managed lane alternative was presented in theNovember 2006 Alternatives Analysis Report in 2006 and presented to the provided information about all alternatives considered,~~

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~~including the Managed Lane Alternative.~~ The City Council ~~as part of the Study findings on~~ eliminated the Managed Lane Alternative from consideration when it selected the Locally Preferred Alternative on December 22, 2006. The Council's selection was signed into law as Ordinance 07-001.

Comments received about the Managed Lane Alternative referenced in the Draft EIS suggested there were significant differences between the alternative studied in the Alternatives Analysis and an ideal managed lane option. However, there was no substantial difference between the alternatives proposed in comments and those studied in the Alternatives Analysis that would have resulted in a different outcome. The primary concern raised about the Alternatives Analysis alternatives was that they did not allow access other than at the beginning and end of the facility. That is a misunderstanding of the Alternatives Analysis alternatives. Both provided access at Aloha Stadium and Middle Street to allow connections to intermediate points along the corridor. Any additional access points would substantially increase the cost of the facility because of right-of-way and structure costs and would affect the level-of-service provided by the investment.

Also questioned in the comments was the provision of a congestion pricing system that would make the facility available to single occupant vehicles or those with two occupants at a cost that would rise during periods of high demand. In both cases, the Managed Lane Alternative evaluated a pricing option, and the two-lane reversible alternative description stated that, "A toll structure has been developed that ensures that the managed lane facility would operate to maintain free-flow speeds for buses" (Alternatives Analysis Report, page 2-4). While there may be some minor details of the proposed alternatives that differ from the Alternatives Analysis alternatives, the evaluation assesses the concept fairly in the context of the Project's Purpose and Need.

In addition, the statement in Chapter 2 of the Draft EIS that "the Managed Lane Alternative would provide slightly more benefit [than the TSM] at a substantial cost" is supported by information provided in Table 2-1 of the Draft EIS. As shown in this table, the cost per hour of transit-user benefit compared to No Build is $13.54 for the TSM Alternative and $50.34 to $63.42 for the Managed Lane Alternative whereas the reduction in vehicle hours of delay and daily islandwide transit trips are comparable between the two alternatives. This supports the statement that the Managed Lane Alternative provides benefits at a "substantial cost." As further shown in Table 2-1 of the Draft EIS, the cost per hour of transit-user benefit for the fixed guideway project compared to the No Build Alternative is $21.32 to $27.05.

The Transit Task Force was created to assist the City Council in selecting the locally preferred alternative. Page 2 of 7 of the Task Force Report states: "The Task Force finds that the Alternatives Analysis' presentation and assessment of [the Managed Lane] alternative were fair and accurate, however it may well be that operational variations of this alternative could make it more attractive and/or feasible than the specific version considered." The operational variations discussed by the Task Force were focused on improving bus operations on the managed lane. The Alternatives Analysis Report (p. 3-13) indicated that the bus would operate very well while on the managed lane system, but would not be able to maintain performance once it transitioned to the local street network. Since the primary issue with buses was the performance on local

streets, the suggestions of the Task Force were not substantive in improving the managed lane alternative performance overall and would not have resulted in a change in the relative merits of the alternatives evaluated. Furthermore, "The Task Force did not identify any additional information that the Council must obtain before proceeding [to select a Locally Preferred Alternative]."

a) Zipper lane: As discussed in the Chapter 5, Alternative 3b of the Detailed Definition of Alternatives Report (2006), ~~The~~ ~~the zipper lane was eliminated in the evaluation of the reversible facility because the demand and capacity would be better balanced without the zipper lane.~~ the reversible lane Managed Lane Alternative provides three managed/HOV lanes in the peak direction, which is sufficient to satisfy the demand for restricted lanes. Eliminating the zipper lane frees up two off-peak direction lanes – one HOV and one general purpose lane. In other words, it was not needed to accommodate the demand in the eastbound direction. ~~Implementation of the zipper lane would result in the loss of two lanes of capacity in the reverse direction.~~ Additionally, Table 3-11 of the Alternatives Analysis Report showed that westbound demand during the a.m. peak hour at the Kalauao Screenline would increase from approximately 7,600 vehicles per hour (vph) in 2003 to approximately 10,600 vph in 2030 with the Managed Lane. While the demand in the reverse direction would increase by approximately 40 percent, the peak-direction demand would increase by only 30 percent. Eliminating the zipper lane while evaluating the reversible managed lane alternative provided the greatest benefit to freeway users by increasing capacity in both directions. Access ramps were provided at several locations. Park-and-ride facilities and bus stops were included to maximize transit use, providing the alternative the greatest opportunity to generate transit user benefits while reducing traffic congestion. However, as stated in the Alternatives Analysis and Draft and Final EISs, the Managed Lane Alternative was less effective at reducing congestion than the Fixed Guideway Alternative.

b) Managed Lane Alternative capital costs: The engineering cost estimate for a two-lane reversible managed lane facility, which was calculated following the same rigorous cost estimating process used for the Fixed Guideway Alternatives, was $2.6 billion in 2006 dollars. The City Council's Transit Advisory Task Force reviewed the Alternatives Analysis and concluded in their report of December 14, 2006 that the assessment of each alternative was "fair and accurate" and that capital cost estimates were compiled using the same methodology and unit cost and that the construction cost estimates were fairly and consistently prepared. Shortening of the Managed Lane Alternative, whether to 14 miles, or 10 to 12 miles, would not have increased the benefits to the traveling public compared to the alternative evaluated.

Regarding the costs of the H-3 Freeway, according to construction cost indices prepared by the Washington State Department of Transportation, construction costs doubled between 1997 (the year construction ended on the H-3 Freeway) and 2006 (the year of the Alternatives Analysis). If construction of the H-3 Freeway had begun in 2006, that project would have cost approximately $2.6 billion. In addition, both the H-3 Freeway and the Managed Lane Alternative face unique situations that affect cost estimates. Construction of the Managed Lane Alternative would have occurred in a heavily

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developed corridor. As a result, there would be substantial disruptions to traffic and utilities, both of which add to the time, and thus cost, of a project. The H-3 Freeway was built in an undeveloped part of the island and which had its own challenges, but expensive traffic and utility disruptions were minimal.

Regarding the Tampa Expressway, the Task Force compared the Managed Lane Alternative to the Tampa Expressway. The designer of the Tampa Bay facility herself admitted that to apply such an estimate without detailed consideration of the many differences between the two locations is not reasonable. For clarification, the Tampa Bay elevated toll lanes extend only 5.8 miles within the 10-mile expressway. The costs quoted are from 2002, long before the costs of materials and construction rose dramatically after 2004. Furthermore, the corridor within which the Tampa Bay lanes are built required no right-of-way, had no significant utility conflicts, no major structures or crossings, and was built in much more favorable geotechnical conditions than exist on Oahu. In addition, real estate costs between the two locations are different, with costs being substantially higher in Honolulu. As stated in the Transit Task Force Report (dated December 14, 2006) Paul Santo, HDOT Highways Division, stated that there are substantial differences in cost for bridge construction between Hawaii and the mainland US. At that time, the State DOT Bridge Section used $400 to $500 per square foot for planning purposes whereas "most highway agencies on the mainland use $100 to $200 per square foot with some even below $100. He believes the high cost in Hawaii is due to its location and the lack of competition." The Transit Task Force Report stated that "the committee concluded that the projects are sufficiently different (actual costs versus projected costs with contingencies; available, accessible ROW vs. construction in actively used highways; no utilities relocation vs. extensive relocations) as to make the comparison unreasonable."

An increase in the number of lanes on the facility would not have substantially changed the findings of the analysis. It would have increased the cost and marginally increased freeway capacity, but the arterial system would still have experienced increased congestion, resulting in total systemwide congestion similar to or worse than the No Build Alternative and substantially worse than the Fixed Guideway Alternative.

Any increase in the number of access points to the facility would result in significant additional right-of-way requirements and additional costs beyond the $2.6 billion cost estimate (2006 dollars). The geometric implications of building additional ramps and the structures that are needed to support them are significant. The elevated structure would need to be widened beyond the two full travel lanes to accommodate a deceleration lane approaching the ramp and an acceleration lane rising to it. These will be carried at a full lane width at the full height of the facility for between 600 and 1000 feet before the ramp descends from the facility or after the ramp rises to join it. These improvements add substantial additional cost to the project, make it more difficult to build and increase its impact on the nearby communities.

c) Managed lane Alternative operating costs: The approach used to develop the costs of the managed lane was the same as for all other alternatives.

d) Effects on vanpools: According to the data in the 2008 Transportation Energy Data Book, vanpools provided less than 2 percent as many passenger-miles of service as transit vehicles. As such, they do not provide a significant alternative to transit service. The benefits of reduced congestion that will be provided by the Project also will benefit any vanpool operations in the corridor.

e) Ingress/egress: As shown in Figures 2-1 and 2-2 of the Alternatives Analysis Report, there were four access locations in the managed lane alternative. The primary issue with access is that too much access may reduce the performance of the facility as a result of weaving and merging traffic and too little access makes the facility unavailable to many potential users. The access locations identified in the alternative were designed to serve the primary population centers in the corridor at the most desirable locations for access. The other side of the access question is that it introduces additional costs to the facility and creates right-of-way, relocation and general disruption of the communities where they are located. To clarify, each access location requires acceleration and deceleration roadways. Each requires an additional lane approaching an exit ramp and a lane following the on-ramp leading to a merge with the mainline lanes. Deceleration and acceleration require about 1000 feet each, including transitions if high speeds are to be maintained through the diverging and merging maneuvers. That means each access location requires about 2,000 feet of an additional lane on the elevated structure (i.e., a wider structure by about 12 feet than needed for the mainline only) in addition to the property impacts on the ground and the necessary roadway features where the ramping system joins the surface roadways.

The Purpose and Need of the Project in Chapter 1 states that the selected alternative must improve transportation mobility, reliability and equity. The necessarily limited number of access points, even if strategically placed as in the Alternatives Analysis, provides convenient access to only a select population. The Managed Lane Alternative cannot guarantee high performance once the vehicle leaves the managed lane itself, offering no improvement to reliability under congested conditions. Limiting access through the high tolls (up to $6.40 during peak periods as noted on page 5-11 of the Alternatives Analysis) required to maintain free-flow speeds is also not consistent with an equitable solution given most people's inability to pay.

f) Due diligence: Development of costs for the Managed Lane Alternative followed the same approach used in establishing the costs of the Fixed Guideway Alternative. The City did complete due diligence both in Hawaii and through its consultant Parsons Brinckerhoff (PB) regarding the use of appropriate costs of the managed lane alternative and the comparison of construction costs between Tampa Bay and Honolulu. Costs of bridge construction were verified and corroborated through PB contrary to the comment letter indication of an "understanding that they were not". The findings of the Transit Task Force Report cited above are one example of such corroboration. Further corroboration is available from FTA's Project Management Oversight Contractor (PMOC), Booz Allen Hamilton, which prepared a Cost Validation Analysis and Report, May 2007. In response to concerns regarding the estimate procedures for the Managed Lanes vs. the proposed

Comment [cvw5]: This needs to cite to the P&N statement with respect to equity, explaining that tolls would be too high for most people to have an option to use the facility.

Comment [h6R5]: Added below

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Fixed Guideway, cost estimates for both alternatives were compared to identify any potential cases of analysis bias in favor of one model alternatives over the other. Two comparison activities were completed, a comparison of detailed unit costs, and a comparison of the cost build-up process for the Managed Lanes and Fixed Guideway alternatives. The PMOC determined both the unit costs and the cost build-up process were exactly the same for the Managed Lanes and Fixed Guideway alternatives. No evidence was found indicating a bias in favor of one modal alternative over the other.

g) Managed Lane Alternative in the EIS: The Alternatives Analysis fully evaluated the Managed Lane Alternative and documented that it performed poorly compared to the Fixed Guideway Alternative on a broad range of metrics, for reasons stated previously in this response letter. The analysis is summarized in Chapters 2 and 8 of the Final EIS. As explained ~~in Chapter 2 of the Final EIS~~previously and shown in Table 6-3 of ~~,~~ the Alternatives Analysis Report, ~~demonstrated that~~ the Managed Lane Alternative would perform poorly at addressing the purpose and need for the Project. These findings are further summarized in Chapter 2 of the Final EIS.

Comment [cvw7]: Please provide more citations as possible.

Comment [KMC8R7]: done

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As stated previously, the requirements for the preparation of a Supplemental EIS are not applicable to the Honolulu High-Capacity Transit Corridor Project.

2. 2003 BRT Project

Your letter references the 2003 Bus Rapid Transit Project. This proposal was a variation on the Transportation System Management (TSM) Alternative that was evaluated in the Alternatives Analysis. While the alternative was cost effective, its overall system benefit was very low. Dynamic pricing was included in the analysis of the Managed Lane Alternative , which found that a very high toll would have to be paid that would limit access for many users.

3. The EZway Plan

Regarding the EzWay Plan referenced in your letter, which included a 15-mile, 3-lane viaduct was developed as a hybrid of a plan for elevated lanes and some form of rubber-tire-on-concrete transit system. This concept was similar to the Managed Lane Alternative, as described in Chapter 2 of the Alternatives Analysis, which accommodated both single occupant and transit vehicles, and which was thoroughly evaluated in the Alternatives Analysis. The main difference with the reversible Managed Lane Alternative was that it eliminated the toll element for single occupant vehicles. The EzWay concept was proposed by a mayoral candidate for consideration just prior to the release of the Draft EIS and the mayoral City of Honolulu election. It represented a subtle variation on the Managed Lane Alternative (i.e., no tolls would be allowed) of the Alternatives Analysis, but did not provide a substantive departure from the work completed previously. There may be many other versions of this type of system with minor adaptations to suit one or another special concern. In the end, however, they all face similar challenges as a primary solution to Honolulu's transportation problems. Specifically, they do not address the Purpose and Need of the Project, which aims to reduce congestion, increase the reliability of the transportation system, serve future land use plans, and improve transportation equity in terms of

the fairness of and access to the transportation system. The other alternatives also would not offer an alternative to private automobile travel, an element of the purpose of the Project.

Part II – Consideration of elevated rail impacts

The Draft and Final EISs present the potential environmental impacts of the proposed action. These are presented in Chapters 3 and 4 of the Draft and Final EISs and summarized in the Executive Summary of the Final EIS.

The Draft and Final EISs present the environmental impacts of the Project on the built environment. The following resources of the affected built environment were analyzed in the following sections of the Draft EIS: transportation system (Chapter 3); land use (Section 4.1); economic activity (Section 4.2); acquisitions, displacements, and relocations (Section 4.3); community services and facilities (Section 4.4); neighborhoods (Section 4.5); environmental justice (Section 4.6); visual and aesthetic conditions (Section 4.7); noise and vibration (section 4.9); energy and electric and magnetic fields (section 4.10); and hazardous waste and materials (Section 4.11). In fact, the majority of the environmental analysis presented in the Draft EIS pertains to impacts on the built environment versus the natural environment. The potential impacts of the Project on the built environment have been thoroughly analyzed in the environmental process, and those results are presented in the Draft and Final EISs.

The Project is located in Honolulu; therefore, none of the listed locations have direct applicability. The New York system is now an obsolete construction technology. Neither the Miami nor San Juan systems have generated additional significant adverse impacts that were not addressed in the environmental review documents for those systems. The Embarcadero was an elevated highway, more akin to the elevated traffic lanes preferred in the comment. One of the reasons it performs poorly is that it does not serve segments of the corridor where congestion is worst. Furthermore, these examples do not suggest there would be additional significant impacts that have not already been disclosed in the Draft or Final EISs.

Visual renderings

Figure 4-27 in the Draft EIS has been revised for the Final EIS. This figure (now Figure 4-28) shows the column located within a raised median and is a correct rendering of the Project based on current design drawings. The Project would not be as large as depicted in the drawing you provided nor would it include barriers between lanes as shown in your letter

The Project would not construct any structures in the vicinity of University Avenue. 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, including a possible extension to the vicinity of University Avenue. The future extensions will not be constructed as part of this Project, thus they are not required to be evaluated under Chapter 343 of the Hawaii Revised Statues and NEPA as part of the Project (Please note that the potential future extensions are discussed in the cumulative impacts sections of Chapters 3 and 4 of the Final EIS). Thus, the graphic of Varsity Station included in the letter does not represent the Project.

The next graphic included in the letter does not adequately represent the Project. Figure 4-28 of the Draft EIS illustrates the Project on Dillingham Boulevard near Honolulu Community College and Kapalama Station Area. A 3-foot parapet wall is included in project design along the entire alignment. As such, the effects of the parapet wall are shown in each of the simulations provided in Section 4.8 of the Final EIS.

Visual and aesthetic conditions are discussed in Section 4.8 of the Final EIS. The Project would be set in a primarily open urban context where visual change, including shade and shadow, is expected and differences in scales of structures are typical (e.g., new high rise buildings). The Final EIS acknowledges that the fixed guideway and stations will be elevated structures, and thus will result in noticeable changes to existing views and in the foreground of these views. This change will also affect the location and extent of shadows.

The analysis acknowledges that shadow impacts along the alignment will vary with orientation, height of the stations and guideway, and the height of surrounding trees and local development (see Section 4.8.3 from the Final EIS). Shade and shadow effects are correctly illustrated in the simulated views included in Section 4.7 of the Draft EIS and Section 4.8 of the Final EIS.

The intent of the comment about the "ugliness" of straddle bents is unclear as there is no noticeable difference between the two pictures shown in the comment. Recognizing the visual concerns about the Project, however, the following measures 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 would establish a consistent design framework for the Project with consideration of local context.*
- *Retain existing trees where practical and provide new vegetation.*
- *Replant trees close to their original locations.*
- *Shield exterior artificial lighting.*
- *Coordinate the Project design with City transit-oriented development planning and Department of Planning and Permitting.*

Part III – The Locally Preferred Alternative

The Project is defined in the Final EIS as a 20-mile fixed guideway from East Kapolei to Ala Moana Center. In February 2007, the City Council passed Resolution 07-039, which directed the first construction project to be fiscally constrained by anticipated funding sources and to extend from East Kapolei to Ala Moana Center. The Project has logical termini and independent utility from any extensions that may be constructed in the future. The potential future extensions are discussed in the cumulative impacts sections of Chapters 3 and 4 of the Final EIS. The potential future extensions are not part of the Project, thus they are not required to be evaluated under Chapter 343 of the Hawaii Revised Statues and NEPA. Under NEPA, environmental analysis is only required when there is a proposed action by a federal agency.

Here, because the potential future extensions are not proposed for implementation at this time, they are not part of the Project studied in the Final EIS. While a statement may have been made about a broader project concept, scoping is an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. Among other things, the scoping process determines the scope and the significant issues to be analyzed in depth in the environmental impact statement. The scoping process is part of the environmental review process that led to the identification of the Project. The broader project concept, which includes extensions to Waikiki and the University of Hawaii at Manoa, are not part of the Project; and therefore, must be the subject future environmental study if it is ever built. The extensions are addressed in Sections 3.6.2 and 4.19.3 of the Final EIS under Cumulative Effects, because while they are not part of the Project, they may be considered a reasonably foreseeable future action. ~~intent before the environmental work began, scopingScoping is a general statement of the intent and scope of the project. It does not preclude a revision in the scope of the work if, upon further review, it is clear that implementation schedule and insufficient funding of some segments isare inconsistent with the Project. Any environmental work prepared now for projects that will not be built until a later, as yet undefined date would have to be redone. Nonetheless, theThe extensions are addressed in Sections 3.6.2 and 4.19.3 of the Final EIS under Cumulative Effects as "planned extensions".. Tbut there was never a commitment to evaluate these extensionsem fully at this time becauseas there has never been no funding has been identified to pay for them. ItIt~~ would be premature to undertake an environmental analysis of the extensions (beyond the analysis conducted as part of the Alternatives Analysis) because they are not part of the proposed action to be taken by the City and FTA. The City has not requested funding from FTA or any New Starts approvals for the future extensions of the elevated rail system. If and when local funding becomes available and future extensions are proposed for implementation, environmental analysis of the extensions and appropriate alternatives analyses will be undertaken at that time.

The Final EIS describes the total extent of the proposed Federal action of construction and operation of a fixed guideway transit system between logical termini in East Kapolei and Ala Moana Center, a project included in the Oahu Regional Transportation Plan 2030. There is no segmentation between a Federal and local undertaking. Possible future extensions from East Kapolei to West Kapolei, Salt Lake Boulevard, and from Ala Moana Center to UH Manoa and Waikiki are addressed in the Final EIS as cumulative effects in Chapters 3 and 4. The extensions represent elements of the long-range plan that are not part of the Project or proposed action. The commenter suggests presenting an evaluation of an action that is not proposed for implementation, which would be a violation of both Chapter 343 of the Hawaii Revised Statues and NEPA.

Chapter 4 of the Final EIS includes an evaluation of the cumulative effects of the Project with other past, present, and reasonably foreseeable actions, including the future extensions. When the planned extensions are evaluated in the future, a range of alternatives and complete analysis of potential impacts will be conducted.

Future extensions are not precluded by the Project identified in the Draft and Final EISs. The 35-foot-high station at Ala Moana Center is a logical terminus for the Project, which will

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Comment [cvw9]: Please explain the quoted material in the honolulutraffic.com letter that states that "both UH manoa and Waikiki service are included in all fixed guideway alternatives that will be evaluated in the EIS."

Comment [H10R9]: Since the extensions are not part of the Project for which funding is sought, what should we say that differs from the current statement? If there was a commitment made to look at those sections for which there is no identified funding, essentially guaranteeing an EIS "redo", does it not make sense to point out that we addressed those sections at a level commensurate with their status on the Project? Hence, the "Cumulative and Indirect Effects Analysis". Otherwise, what should this say? That is the only answer as far as we know. We're open to other ideas.

Comment [JKS11]: 23 CFR § 771.111.

Comment [JKS12]: 40 CFR § 1501.7.

Comment [JKS13]: 40 CFR § 1501.7.

Comment [JKS14]: 40 CFR § 1508.7.

Comment [cvw15]: This still does not explain why the quote from the second scoping report states that different termini would be used for the fixed guideway alternative.

Comment [h16R15]: I don't know the specific answer, but scoping is a general statement of the intent and scope of the project, not a commitment. At the time, it might have been that it was indeed the intent to look at all of it. However, if there was a realization that there is insufficient funding for all of it, it is reasonable to revise the scope to avoid preparing premature environmental work. Can we say that? Please see the revision in the text.

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serve the shopping center and area properties. In the future, when funding is available, the extension would be designed to best accommodate the possibilities available at that time. The high level option over the shopping center is still available and does not obviate the need for the 35-foot option built now. There are operating plans for the system that will continue to rely on the 35-foot station even after an extension is built. If a future extension is constructed beyond the Ala Moana Center, it is preliminarily proposed that the branch lines would have longer headways than the core system, and service that terminates at Ala Moana Center would use the lower platform, while through service would use the upper platform. Riders traveling towards UH or Waikiki would use the upper platform, while those traveling to Ewa could use either platform.

The Draft EIS provided estimates of cost-effectiveness for those build alternatives addressed in the document, namely three fixed guideway alternatives from East Kapolei to Ala Moana Center. The cost-effectiveness discussion in the Final EIS has been revised since the Draft EIS to reflect updated modeling and financial information. In addition, cost-effectiveness is only presented for the Airport Alternative. Future extensions from East Kapolei to West Kapolei, Salt Lake Boulevard, and from Ala Moana Center to UH Manoa and to Waikiki are addressed in the Final EIS as cumulative effects in Sections 3 and 4.

Table 3-16 of the Draft EIS provides total transit boardings and linked trips in 2030 for each of the "First Project" Build Alternatives (East Kapolei to Ala Moana Center). Table 3-28 of the Draft EIS shows fixed guideway boardings for each of the "First Projects" and the "First Projects plus extensions" (East Kapolei to Ala Moana Center with the West Kapolei, UH Manoa, and Waikiki extensions). These tables have been revised in the Final EIS to show boardings for the Airport Alternative and the Airport Alternative plus future extensions (Tables 3-18 and 3-29 respectively).

As documented in the Alternatives Analysis and summarized in Chapter 2 of the Final EIS, the Managed Lane Alternative performed poorly in comparison to both the 20-mile and full-corridor Fixed Guideway Alternative alignments evaluated in the Alternatives Analysis. Chapter 2 in the Final EIS includes a discussion of why the Managed Lane Alternative is no longer being considered. ~~There was at no time any suggestion that the Project was anything different from tthe 20-mile fixed guideway that is the subject of the EIS. Because of the available funding, the Project was, of necessity, limited in to this alternativescope. Please note that Tthe planned extensionsplanned extensions are addressed generally but in a less comprehensive fashion given these limitationsin the Cumulative Impacts sections in Chapters 3 and 4 of the Final EIS . This Project has been consistent in its presentation to the public since the beginning of the EIS/Preliminary Engineering project began in mid 2007.~~ Despite any prior comments, the Project in the EIS was defined to be the 20-mile fixed guideway that is the subject of the EIS by City Council action in adopting a financially constrained alternative. Because of available funding, the Project was, of necessity, limited in scope and, as a consequence, so was the content of the supporting EIS. Please note that the planned extensions are addressed generally in the Cumulative Impacts sections in Chapters 3 and 4 of the Final EIS. This Project has been consistent in its presentation to the public since the beginning of the EIS/Preliminary Engineering project began in mid 2007.

Part IV –Project Termini

Comment [cvw17]: The second scoping report, as mentioned above, does suggest that the alternative would include some extensions beyond the 20-mile project.

Comment [cvw18]: As above, this language still asserts that there was never a suggestion that the project was different from the 20-mile project, which appears to contradict the second scoping report.

Comment [h19R18]: See above response

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The Record of Decision, acceptance of the Hawaii Revised Statutes Chapter 343 EIS, and applicable permits are required prior to construction. Pearl Highlands is not a project terminus, rather, it is a construction phasing point. The questions of logical termini, independent utility, and not restricting other foreseeable transportation improvements apply to project limits of East Kapolei and Ala Moana Center. First, the Project still connects logical termini and is of sufficient length to address environmental matters on a broad scope as required by 23 CFR 771.111(f). As discussed in Chapter 2 of the Final EIS, the open fields alluded to in the letter are slated for major residential and commercial development including a significant new campus of the University of Hawaii (University of Hawaii West Oahu) as well as the Kroc Center, a major destination community center complex. In addition, Ala Moana Center is a logical Koko Head terminus because it is a major activity center as well as a major transit hub with more than 2,000 weekday bus trips. The Project can operate independent of any future transportation improvements. Lastly, the 20-mile alignment will not preclude any reasonably foreseeable transportation improvements since it is proposed almost entirely within the median of existing roadways where no transportation improvements would occur. The Project enhances the existing transportation system by adding substantial new person-carrying capacity to the corridor by making more efficient use of the roadways. Construction phasing points such as Pearl Highlands are not relevant to the completion of the EIS as long as the entire Project is covered in the document.

Second, the Project has independent utility, because it will be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made. As discussed in Chapter 2 of the Final EIS, the Project will connect multiple activity centers, provide cost-effective transit-user benefits, and meet the Purpose and Need whether or not the planned extensions are built.

Third, the Project would not restrict consideration of alternatives for other reasonably foreseeable transportation improvements. Construction of the Project will not preclude future development of the planned extensions, nor would it preclude development of other projects on the Oahu Regional Transportation Plan (ORTP).

Because of its length, the 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 disruptions.*
- *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 resources.*
- *Balance expenditure of funds to minimize borrowing.*

The construction phases are not project segments and are considered in total in the Final EIS to meet the requirements of 23 CFR 771.111(f).

Part V – Forecasts

1. Ridership forecasts

National trends show substantial ridership increases. Last year (2008) recorded the highest demand for public transportation in 52 years (APTA 2008 Ridership Report). National transit ridership has grown 18 percent over the past ten years (2007 National Transit Summaries and Trends, National Transit Database). Honolulu transit ridership has grown over the past several years recovering from three fare increases (July 1, 2001, July 1, 2003, October 1, 2003) and a month-long strike (FY 2004).As identified in the Final EIS (Chapter 3, Section 3.2), transit ridership forecasts, for rail and bus service, are based on a travel demand forecasting model used by the Oahu Metropolitan Transportation Organization (OahuMPO) for the Oahu Regional Transportation Plan. This model is based on guidelines established by FTA and is required to qualify for federal grant funding under the New Starts program. FTA forecasting guidelines have been revised periodically to take advantage of experiences on other projects to ensure projections are realistic and reproducible. The ridership figures presented in the Final EIS have been developed using the latest and best practices put forth by the FTA.

In addition, the Project is one of the first in the country to design and undertake an uncertainty analysis of this type of travel forecast. The uncertainty analysis evaluates the variability of the forecast by establishing probabilistic upper and lower limits of ridership projections. FTA has worked closely with the City during this work effort. A variety of factors were considered in the uncertainty analysis, including the following:

- *Variations in assumptions regarding the magnitude and distribution patterns of future growth in the Ewa end of the corridor.*
- *The impact of various levels of investment in highway infrastructure.*
- *The expected frequency of service provided by the rapid transit system.*
- *Park-and-ride behavior with the new system in place.*
- *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 is expected to be between 105,000 to 130,000 trips per day, bracketing the official forecast of 116,000 riders a day used for all calculations.

2. Projected energy savings

According to the U.S. Dept. 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. While New

York City carries more transit trips than any other city, it represents only 22 percent of the rail passenger-miles traveled, not 57 percent, according to the Bureau of Transportation Statistics (BTS). Furthermore, the commenter applies the most convenient interpretation of the Department of Energy information to make his point about energy utilization. If we use 1600 BTU/mile instead of 8000 BTUs/mile, it can be argued, using the same statistics presented in the comment, that many transit riders use less than half the 3400 BTUs/mile consumed by people who drive. The analysis presented in both the Draft and Final EISs applies more reasonable numbers for energy use. As the Department of Energy advises, great care should be taken when comparing modal energy intensity data among modes. Because of the inherent differences among the transportation modes in the nature of services, routes available, and many additional factors, it is not possible to obtain truly comparable national energy intensities among modes. These values are averages, and there is a great deal of variability even within a mode, as the commenter has demonstrated. The same Department of Energy report referenced by the commenter shows that between 1970 and 2006, highway transportation energy consumption has been growing at a rate of 1.8 percent per year. The commenter's assertion that highway transportation energy consumption will stop growing on an annual basis is not supported by data collected over the past 36 years.

With regard to construction energy usage, a construction project will obviously require the use of energy. If no construction is done, less energy will be used. Under any alternative evaluated to this point, with the exception of the ineffective No Build and TSM Alternatives in the Alternatives Analysis, avoiding construction is not possible and affords no possible way to meet the Project's Purpose and Need to improve mobility and reliability, access to planned growth areas, and improvement in the equity of the transportation system. Recognizing the demand for energy during construction, measures are being taken to reduce energy use during construction as noted in Chapter 4.18.6 of the Final EIS.

3. The Draft EIS financial plan

The financial plan for the Project is discussed in detail in Chapter 6 of the Final EIS. The commenter's statement that "the additional operating subsidy for rail is not accounted for in the cash flow" is incorrect. The referenced cash flow table anticipates a City subsidy of $4.726 billion will be spent to support all public transit operations and maintenance during the 2009-2030 period. This is approximately 14 percent of anticipated revenues from the City's General Fund and Highway Fund during this period of which the Project will represent less than 25 percent. Approximately 60 percent of General Fund and Highway Fund revenues come from property taxes with the remainder coming from a variety of other taxes and fees.

The commenter is correct in noting that over $500 million ($571 million) in General Obligation Bond proceeds are anticipated to be used for ongoing capital expenditures during the 2009-2030 period. This is a continuation of the City's long-standing practice of using General Obligation Bond proceeds to pay for ongoing capital expenditures for the transit system. As shown in the cash flow table for the Project, about 9 percent of ongoing capital expenditures during the 2009-2030 period are anticipated to be related to the rail line, with the remainder going to the purchase of vehicles and other capital projects for TheBus and TheHandi-Van. It is likely that many of these expenditures, utilizing General Obligation Bond proceeds, would occur even if

the rail project were not implemented. In reference to General Excise and Use Tax (GET) collections, the Final EIS financial analysis recognizes the reduction in GET surcharge collections, forecasting total revenues of $3,524 million from the GET surcharge, almost the same as presented in the commenter's letter.

The financial plan is a dynamic document that will be regularly updated to reflect changing conditions. The City will continue to refine revenue forecast and cost estimates as the Project proceeds through FTA's New Starts process. The financial analysis presented in Chapter 6 shows the overall Project financial plan to be balanced using federal and GET surcharge revenues. The primary change has been the amount of federal funding to be requested from New Starts has been increased. This revision has been presented to the FTA.

4. Risk ~~assessment~~Assessment

Chapter 6, Section 6.6 of the Final EIS provides a detailed discussion of the risks associated with Project funding ranging from project construction risks to market uncertainty to inflation. It also presents other possible revenue options should conditions warrant their consideration.

The operating cost model was developed using information from Washington Metro, Los Angeles and Miami as noted in Chapter 6 of the Final EIS. The procedure used was in accordance with the guidance of the FTA and has been reviewed by the FTA. All transit projects have a variety of different characteristics and thus do not provide an "apples to apples" comparison. While cost comparisons may be somewhat helpful in evaluating projects, they cannot form the primary basis for such an evaluation because of the unique physical conditions, engineering and other characteristics of each geographic area and system.

The "Pickrell Report" is widely accepted as being out of date as it reviewed a small sampling of systems that were built over 20 years ago and which were not exposed to the current more rigorous requirements of the FTA's New Starts process. The 2007 FTA report shows real costs ~~estimates~~ to be much closer to estimates, in general. Sixty percent of the percentage discrepancy presented by the commenter is recognized in the report by the FTA to be attributable to one project, the Tren Urbano in Puerto Rico. Comparing the final estimate before construction of the same list of projects without the Tren Urbano shows the comparison of actual cost and estimate to be within a reasonable range. These kinds of discrepancies are now the subject of careful review by the FTA using third party financial specialists to supplement their own reviews. The New Starts process is designed to refine estimates as the engineering and design elements are advanced. In the end, the analyses in these reports serve to aid FTA in improving the way estimates are done.

Cost estimates and ridership projections for the Project have been developed in accordance with the latest guidance issued by FTA. FTA and the Project have the benefit of experience from other systems built in the U.S. FTA continuously adjusts the requirements to improve practices where necessary. As mentioned above, there are many checkpoints within the development of the Project subject to FTA scrutiny, review and, ultimately, approval. The Financial Plan and ridership analysis prepared for the Project and documented in the Final EIS

Comment [cvw20]: This section doesn't seem to respond to the comment about the CPAR, the 20% overrun, or the statement that more than half of the projects were outside of the 20%.

Comment [H21]: Cliff's focus has been on the Pickrell report which really no longer applies as noted in the text.

Comment [cvw22]: Whatever his focus might generally be, the comment letter appears to raise issues not addressed or mentioned in the response (at least not in this section). We need to be careful to respond to each substantive point raised in the letter.

Comment [h23R22]: This is responded to in the section discussing the 2007 figures and the fact that FTA is placing much stronger emphasis on the cost review. We do not want to try to explain overruns in other properties. What else would we say?

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contains the best available data, and their development adheres to FTA requirements. The Final EIS also discloses the potential risks and uncertainty associated with funding for the Project (Section 6.6).

The fixed guideway alternative was shown in the Alternatives Analysis Report to provide the best improvement in travel conditions over the No Build Alternative compared to the Managed Lane and the TSM alternatives. This analysis is discussed in Chapter 2 of the Final EIS. The fixed guideway will reduce VHD on the highways by 18 percent compared to the No Build Alternative. Other alternatives studied offer negligible improvement compared to the No Build Alternative.

The fixed guideway component of public transit operating costs is projected to be 25 percent of the systemwide total. Increasing operating costs are a consideration for the entire transit program. Operating costs for the transit system as a whole (i.e., TheBus and TheHandi-Van and, eventually, the Project) are funded from the City's General and Highway Fund which is made up of a variety of sources, including property taxes, vehicle license fees and other items. The operating budget is set each year by the City Council during the budget process. The additional costs of the transit system will not by themselves cause a need to increase property taxes (and the contribution from the Project is even less likely to do so), but the City Council will review all competing needs and the available resources and make that decision each year as they do now with all City operating programs.

5. Operating subsidies

Chapter 6.4 of the Final EIS describes the basis for the operating costs used in the financial calculations. The primary public transit properties used for comparison were Washington D.C., Los Angeles, and Miami. These systems were selected because they had detailed information available as required by FTA. Other apparently comparable operations did not maintain the appropriate types of data needed for the detailed analysis required by FTA. The methodology to develop operating and maintenance cost estimates for the fixed guideway project was reviewed by the FTA. All properties used for comparison were steel-on-steel grade-separated systems. Your comment that Miami's operating cost per trip of $4.61 compared to Honolulu's projected $2.27 cost per trip suggests that Honolulu's operating cost may be understated. However, cost per trip is a poor metric for comparisons of operating costs because the measure also depends on ridership response to the service. Cost per vehicle revenue hour is a much better metric because vehicle-hours are a direct quantification of the amount of service provided. Miami's cost of $9.65/vehicle-hour is only slightly higher than Honolulu's projected cost of $9.20/vehicle hour.~~You comment that Miami's operating cost per trip of $4.61 compared to Honolulu's projected $2.27 cost per trip suggests that Honolulu's operating cost may be understated. Cost per trip, however, is not a measure of how much it costs to operate a rail system but rather is a cost effectiveness measure comparing operating cost and number of unlinked passenger trips. A more relevant measure of the cost to provide service is operating expense per vehicle revenue hour. Miami's cost of $9.65 is only slightly higher than Honolulu's projected cost of $9.20.~~

Regarding the long term cumulative operations cost, the fixed guideway portion of the overall transit systemwide cost is less than 25 percent. Chapter 6.6 of the Final EIS discloses the risks and uncertainties associated with the financial analysis of the Project.

The cost of security is included in the operating costs estimated for the Project as part of the development of the overall operating costs for the system. Security costs are reflected in "professional services" element of the operating costs for all the systems used in developing Project. The security cost for the Los Angeles system cited in the comment is for all transit services not just fixed guideway service, which is significantly more extensive than Honolulu's proposed Project.

You also reference FTA's Contractor Performance Assessment Report (CPAR), September 2007. The findings of the CPAR with respect to operations and maintenance (O&M) costs are inconsistent with your assertion. Quoting from page 26 of the CPAR Appendix "Figure 8 shows that actual O&M costs tend to be less than the estimate prepared for the AA/DEIS – a finding consistent with the level of service offered." Quoting from page 27 "For the projects reported here the as-operated O&M costs are on average 92 percent of the estimate." Quoting from page 28 "It is rare for New Starts project O&M costs to exceed the planning estimates."

6. Replacement and Refurbishing

Information regarding replacement and refurbishing has been included in the Final EIS and is shown graphically in Figure 6-1. Similar replacement and refurbishing practices will apply to the fixed guideway as they do to TheBus. Although railcar equipment is more costly, it has a much longer lifespan than buses and associated equipment and facilities. The funding for refurbishing and replacement will come primarily from discretionary and formula federal funding such as FTA Urbanized Area Program and the Fixed Guideway Modernization Program. The City will receive a higher share of formula funding because of the Project.

Replacement and refurbishment costs are minimal for the Project as a new system. Costs are expected to be very small with no full replacement needed until 16 years after the opening of the first segment (2028 at the earliest) and only minor repair costs about five or six years after opening. This places the demands for replacement and refurbishing outside the planning horizon for the Project. However, recognizing the need to provide for this cost over time, the Peskin approach has been used effectively for estimating these needs.

The need for refurbishing and replacement of capital assets is addressed in the Financial Plan and discussed in Chapter 6 of the Final EIS, including funds available for that purpose. There will be ongoing costs to maintain the fixed guideway system as there are with any capital investment over time. A possible method of calculation of such costs is mentioned above.

Forecasting and Cost Effectiveness

At a $16.24/hour cost-effectiveness index (CEI) as indicated in Chapter 7 of the Final EIS, the project is well under the $23.99/hour level the FTA requires to find a project to be cost-effective. Ridership and costs are based on the best information available and have been

developed consistent with FTA guidance and under FTA scrutiny. Even at lower levels of ridership or higher costs, the Project would still qualify under the FTA's CEI criterion.

FTA approved the Project's entry into Preliminary Engineering on October 16, 2009, giving the Project an overall rating of "Medium." This rating is sufficient for the Project to be advanced in the Federal project development process and for the Project to be recommended for Federal funding. The information related to the New Starts evaluation of the project is discussed in Chapter 7, Section 7.6.

Part VI – Information in the Draft EIS

Numerous transportation reports were prepared for the Draft and Final EISs, including the Transportation Technical Report; Addendum 01 and Addendum 02 to the Transportation Technical Report; Model Development, Calibration, and Validation Report; Travel Forecasting Results and Uncertainties Report; Travel Demand Forecasting Results Report; and Addendum 01 to the Travel Demand Forecasting Results Report. These reports are available on the Project website and listed in the References section of the Final EIS.

1. Other material

a) OMPO surveys:
The statements quoted from the 2004 Oahu MPO Survey indicate that there is broad public support for an improved transit system and a willingness to fund the improvements with local tax revenue.

The 2006 survey provided little new information about the public's opinion about the fixed-guideway project. The indication that one-third of Oahu residents plan to use the Project on a regular basis would indicate a substantial desire of current drivers to change mode to reliable transit.

b) Future traffic conditions versus today's traffic:
The Draft EIS provided existing traffic conditions in Table 3-7 and 2030 conditions with and without the Project in Table 3-20. The information is provided for the public to compare current conditions to those projected for the future both with and without the Project. Tables 3-9 and 3-10 in the Final EIS present traffic volume information for existing conditions and for 2030, with and without the Project, during the a.m. and p.m. peak hours. These tables have been revised in the Final EIS to show the component roadway facilities of each screenline, level-of-service, and maximum volume thresholds. As shown in these tables, traffic decreases with the introduction of the Project. The Final EIS includes a statement in the Summary of Findings (now appearing as Table 3-1) stating that roadway conditions in 2030 will be better with the Project than the No Build Alternative. Table 3-14 compares the 2030 No Build Alternative with the Project and clearly shows the benefits of building rail to vehicle miles traveled (VMT), vehicle hours traveled (VHT) and VHD. All measures decrease significantly with the implementation of the fixed guideway compared to the No Build Alternative.

c) Highway capacity data

In response to comments and additional analysis, the travel forecasting model has been refined since the Draft EIS to account for non home based direct demand trips during off peak periods. In addition, the air passenger model was updated to reflect current conditions. The Final EIS reflects updated ridership numbers resulting from model refinement. Screenline information for existing conditions, 2030 No Build, and the Project are shown in Tables 3-9 and 3-10. Updated VMT, VHT, and VHD for all time frames are shown in Table 3-14.

Under the No Build and Build alternatives, travel forecasting has assumed several transportation projects, including congestion relief projects in the Oahu Regional Transportation Plan 2030 (as shown in Table 2-4 in the Final EIS). As identified in Chapter 3 of the Final EIS (Table 3-14), the fixed guideway alternatives would result in reduced islandwide vehicle delay of 18 percent as compared to the No Build Alternative.

The screenline volumes in the Alternatives Analysis report were incorrect and have since been corrected. Numbers have been updated for the Final EIS based on the Airport Alternative and refinements to the travel demand forecasting model. The updated results continue to show that traffic will decrease with the addition of the Project. Tables 3-9 and 3-10 in the Final EIS contain updated screenline information including level-of-service, maximum capacity thresholds, and the component roadway facilities of each screenline.

2. Purpose and Need statement:

Section 1.7 of the Draft EIS specifically states the Project's purpose: The purpose of the Honolulu High-Capacity Transit Corridor Project is to provide high-capacity rapid transit in the highly congested east-west transportation corridor between Kapolei and UH Manoa, as specified in the Oahu Regional Transportation Plan 2030 *(OahuMPO 2006). This Purpose and Need in the Draft EIS reflects the work completed during the Alternatives Analysis and the findings resulting from that effort that led to a City Council decision to pursue a fixed guideway system for Honolulu. The Project is intended to provide faster, more reliable public transportation service in the study corridor than can be achieved with buses operating in congested mixed-flow traffic, to provide reliable mobility in areas of the study corridor where people of limited income and an aging population live, and to serve rapidly developing areas of the study corridor. The project also would provide an alternative to private automobile travel and improve transit links within the study corridor. Implementation of the project, in conjunction with other improvements included in the ORTP, would moderate anticipated traffic congestion in the study corridor. The Honolulu High-Capacity Transit Corridor project also supports the goals of the Honolulu General Plan and the ORTP by serving areas designated for urban growth.*

The need for transit improvements are discussed in Section 1.8 of the Draft EIS, and are addressed by the Project goals as discussed in Section 1.9 of the Draft EIS. They include: improve corridor mobility, improve corridor travel reliability, improve access to planned development to support City policy to develop a second urban center, and to improve transportation equity.

The purpose and need statement complies with the requirements of NEPA and applicable FTA guidance.

3. Visual renderings

Please see our response to this topic above, under Part II.

Part VII – Information outside of the Draft EIS

The Draft and Final EISs include a clear and objective evaluation of project alternatives and impacts.

Project funds have been expended to inform the public and solicit public input about the status and details of the project.

The comment related to political contributions is not related to the environmental analysis of the Project.

The purpose of the Project, as stated in Section 1.7 of the Final EIS, includes moderation of anticipated traffic congestion ("Implementation of the project, in conjunction with other improvements included in the ORTP, would moderate anticipated traffic congestion in the study corridor."). As shown in Table 3-14 in the Final EIS, in comparison to the No Build Alternative, in 2030 the Project would result in an 18 percent reduction in islandwide congestion, as measured by daily vehicle hours of delay. Thus, the Project meets the purpose of moderating anticipated traffic congestion.

You are correct in pointing out that traffic congestion will be worse in the future with rail than what it is today without rail, and that is supported by the data included in the Final EIS. In fact, projections suggest that traffic conditions will be worse in 2030 under any circumstances. The Alternative Analysis supports this statement as does the analysis of transportation impacts in the Final EIS. The comparison that is key to the Project is that rail will improve conditions compared to what they would be if the Project is not built. With the fixed guideway system, total islandwide congestion (as measured by VHD) would decrease by 18 percent (as shown in Table 3-14 in the Final EIS), compared to the No Build Alternative. In addition, traffic volumes were studied at various screenlines in the study corridor. The travel demand forecasting model was used to forecast traffic volumes at these screenlines in 2030, both with and without the Project (as shown in Tables 3-9 and 3-10 in the Final EIS). Analysis revealed that traffic volumes at these screenlines would decrease up to 11 percent with the Project. Accordingly, traffic conditions will be significantly better with the fixed guideway compared to the No Build Alternative.

The comment regarding inaccuracy in statements made by politicians is not related to the NEPA environmental analysis of the Project. FTA is the federal lead agency and will continue to ensure compliance with NEPA as part of their responsibilities under NEPA and federal law.

The NEPA process is unrelated to any electoral processes. Further, this comment regarding the electoral process is not related to the environmental analysis of the Project.

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. Acceptance of the Final EIS by the Governor of the State of Hawaii and issuance of the Record of Decision under NEPA are the next anticipated actions.

Very truly yours,

WAYNE Y. YOSHIOKA
Director

Enclosure