# Honolulu High-Capacity Transit Corridor Project
## Inter-office Memorandum

**Topic:** Discussion on Honolulu International Airport Runway 22 – Added Capacity

**Date:** November 4, 2009

**Purpose of Memorandum:** In recent discussions with representatives of the FTA, the Rail Project Team indicated that HDOT-A's expansion plans would be impacted by recent changes in FAA Runway Protection Zone (RPZ) clearance requirements from 1,000 feet to 1,700 feet. This memorandum attempts to itemize these potential issues to better understand the design complexity and trade-offs that must be considered in future analysis.

This memorandum is not intended to represent HDOT- Airport's (HDOT-A's) future plans for these runways or fully evaluate the overall impact/benefits to airport operations due to improvements. HDOT-A did not participate in the preparation of this memorandum.

**Background:** Runway 22L/4R and 22R/4L are important to the airport's normal and abnormal weather operations. Runway 4R is used for arrivals throughout the day for all classes of aircraft, and is the primary runway for late evening and night arriving flights. Runway 22L is used for departures. During kona wind conditions, the runways are used more heavily depending on air traffic demands. Runway 22R/4L has more limited use due to its length and is used by private and small commercial aircraft. Both runways restrict large commercial aircraft from landing in a makai direction and departing in a mauka direction due to the close proximity to the mountains and the dense population near the mauka end of these runways.

Early airport planning documents have indicated the desire of HDOT-A to lengthen Runway 22R/4L to accommodate larger commercial aircraft. These documents have shown 1000-foot extensions of the runway on the makai end of the runway. All of the planning documents available to the Rail Project Team show the mauka end of the runway remaining unchanged from the existing, and the RPZ extending only 1,000 feet mauka of the runway.

**Design Considerations:** Recent changes in FAA runway clearance requirements, as defined in Circular AC 150/5300-13, have significantly altered the minimum clearances for fixed structures within the Runway Protection Zone (RPZ). The attached drawing depicts the RPZ for 22R/4L and 22L/4R Runways for the new and previous dimensional requirements. Key issues:

- The drawing clearly indicates that commercial property between Aolele and Ualena Streets are within the RPZ of both runways for the existing runway configuration when the new 1,700-foot FAA requirement is applied. The previous 1,000-foot RPZ falls short of Aolele Street and the commercial properties.
- The 1,700-foot RPZ for Runway 22R extends beyond Ualena Street into the large commercial (including retail space) area between Ualena and Koapaka Streets. This is not under the ownership of HDOT, unlike the property between Aolele and Ualena Streets, which is owned by HDOT and leased to private concerns.
- The early planning documents for the Airport show that Runway 22R/4L is proposed to be extended 1,000 feet in the makai direction. While there is space for this extension, the extension would most likely trigger FAA enforcement of the current 1,700-foot RPZ clearance requirement, especially if larger planes were to use Runway 22R/4L. This would require purchase of a significant amount property along Ualena and Koapaka Streets and the demolition of several commercial buildings. The early planning documents referenced the 1,000-foot RPZ, which showed no impact to the commercial property.
- New development within the 1,700-foot RPZ could either be prohibited by the new requirement or require relocation of the runways similar to what the Rail Project has proposed.
- If the new RPZ requirement were to be unilaterally enforced (without extending the runway), the HDOT-A would be forced to acquire property or relocate the runways similar to what the Rail Project has proposed. The relocation concept would maintain the present capacity of the Airport.

**Conclusion:** The Airport has not determined when additional runway capacity is required. In conversation with HDOT-A planners, runway expansion is 30 to 50 years in the future. Obviously many changes will occur during this time, including additional changes in FAA requirements. How time will affect decisions is difficult to predict without a significant analysis of the costs and benefits of any expansion plans, including understanding any potential risks for decisions that may limit future options.

The City has agreed to support the analysis needed to aid "decision makers" in developing an overall growth strategy and determining the best approach for Runways 22R and 22L. If the Rail Project bears the cost of runway relocation, the HDOT-A would not have to consider that cost in their future planning for compatibility with the new FAA RPZ requirement.