Trucks are currently the primary mode for air-freight door-to-door service delivery in San Francisco Bay Area for all the integrated/non-integrated carriers, providing connectivity between airports, sorting sites, local distribution (collection) centers and customers. However, trucks have a significant impact on peak period highway congestion, auto drivers’ safety, security and air pollution in the vicinity of major airports and on the highway corridors that lead to them. To mitigate those impacts, it is important to find other lower impact alternatives. This research will investigate the feasibility of using the BART (Bay Area Rapid Transit) rail system in place of trucks whenever and wherever possible. BART system presently uses about 30% of its capacity on average for passenger movement. If it is possible to use the rest of 70% capacity for freight movement, it will increase the efficiency of this system and reduce land use and pollution related to air freight movement. BART may perform better in scheduling because it is away from road traffic, which just meets the requirement of limited-time-window delivery of integrated air freight carriers. The first year of the project will focus on infrastructure feasibility and business case for BART and FedEx systems.