Libban-Eft Essay

The year is 2166 and the city of Libban-Eft, located on the southwestern shores of Canada, has been nominated to host the 2176 Olympic Games. With a population of 14.12 million in 627 square miles, Libban-Eft has a population density of approximately 22,519 people per square mile. This makes it one of the most congested, yet vibrant, cities in North America, a challenge which will be magnified by the influx of tourists and athletes attending the upcoming games. Thus, it is vital that Libban-Eft’s infrastructure be intermodal, sustainable, and efficient.

The primary transportation innovation in Libban-Eft is the Plexus. The Plexus is a series of underground tubes that connect the city and transport passengers quickly and safely in Superconducting Modules (Mods).
The Mods are unique because of their very strong superconducting qualities. They are run through the tubes by way of quantum locking. This works by applying minimal force to the pods (from cannons expressing air.) These mods move with ease through frictionless tubes lined with magnets until air cannons stop them. The Mod hovers inside the tube, not touching the sides, to find the fastest way to its destination. As soon as it arrives, it moves upward out of the main tube system and docks at the docking station where passengers board and depart the Mod.

Although the Plexus solved many problems in Libban-Eft, there were still a few tradeoffs. First, the initial cost was high, but that is acceptable since the value of the benefits was greater. Also, there were a few safety concerns that came with the Plexus. If the Plexus breaks down or a Mod malfunctions, traffic is stopped and emergency vehicles are dispatched to take the passengers to safety. The faulty Mod is taken to a maintenance facility where it is examined and repaired. Another tradeoff of the Plexus was the time required to transform the previous city infrastructure for this innovative system. The values of the benefits of the Plexus far outweigh the costs it created.

Using the Plexus is a simple and effective way of getting around Libban-Eft. Transportation Hubs (buildings that have a Plexus boarding station, Bike Share rack and Non-Stop Train station) are located in every compact urban cell\(^1\) and are approximately 2 miles apart. At the Transportation Hubs, the passengers board a Mod seating 6, 10, or 20 passengers. The 10 and 20 passengers Mods are cylindrical so they can hold more passengers, but are flexible enough to navigate through the tubes. Since there are eight boarding stations at each docking station, passengers can board and depart the Mods with

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\(^1\)Libban-Eft is divided into compact urban cells which are small neighborhood-like districts within the city. Each ‘cell’ has all of the resources citizens need including housing, recreation and stores all within a walkable distance of one another.
ease. Once in the Mod, an interactive map of Libban-Eft and all of the docking stations appears on the front screen. Passengers simply press the docking station they would like to travel to, and the Mod submerges into the system below.

In addition to the Plexus, other innovations such as a Megaport, Non-Stop Train (NST), and Bike Share Program provide the city with impressive intermodality. The Megaport is comprised of a seaport and an airport for long distance travel of people and goods. The seaport serves boats and submarines. The submarines, principally used for freight transportation, are unmanned and use GPS systems to maintain trajectory. These submarines remove human error and are a more ecofriendly way to transport freight. Adjacent to the Megaport is a Transportation Hub so long distance travelers can easily get to the heart of Libban-Eft.
Our NST (Non-Stop Train) is on an elevated track, taking citizens efficiently around the perimeter of the city. There are two parts of the NST, the main train and the detachable cars spaced at intervals on top of it. The main train is in continuous motion, moving around the track. “Piggy-back” cars pick up and detach at each station, allowing passengers to board and disembark at the stops needed. Elevator systems allow all passengers, including those with disabilities, to move back and forth from the “main” and “detachable” cars as needed. The NST is an important piece of the interconnected, cutting-edge transportation innovations that enable Libban-Eft citizens and visitors to travel with ease around the city.
Many engineers were required to build our city’s transportation system. Civil Engineers designed, constructed, and constantly maintain the infrastructure of the Plexus, NST, Megaport, and Bike Share systems while Transportation engineers worked with them to created the systems themselves. Mechanical engineers designed the engines to power the train and other vehicles. Environmental engineers worked to make sure that the systems have a positive impact on the environment, creating solutions such as the nano-turbines which provide a sustainable energy source.
Electrical engineers created the circuitry that transports powers to all of our systems. Our city owes its success to great engineering!

Word Count: 996 words
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