## **Life Cycle Cost**

Ordinarily, lifecycle cost is defined as the combination of operating expenses and capital expenditures. Operating expenses consist of costs related to transportation and maintenance costs for rolling stocks and ground equipment. Capital Expenditures are based on depreciation costs of rolling stocks and ground equipment.

Operating expenses are reduced by providing efficient transportation services that utilize rolling stocks, monitoring condition of electrical equipment and tracks on a inspection train and intensive and efficient maintenance by dividing maintenance time and operation time completely. In addition, the reduced weight of the rolling stock by the principle of crash avoidance leads to less track damage and maintenance costs for tracks and ground structures.

Furthermore, high-frequency and on-time train operation, which is a distinguishing feature of high-speed rail systems based on the principle of crash avoidance, maximize the use of rolling stock owned and increase the number of trains arriving and departing at a platform by shuttling trains efficiently, thereby minimizing the investment in rolling stocks, platforms, tracks and signalling systems. That contributes to controlling not only depreciation costs but also the maintenance costs for the future.

