Justification for selecting a specific architecture pattern for Smart City project

For our “Smart City” web application, three-tier architecture pattern was chosen for a number of reasons. The three-tier architecture pattern split the presentation logic from the business logic which consists of three independent layers of application, business and database. Having these separated layers allow our project to maintain much easily and also it is much more adaptable to changes. Such that it allows each layer to be updated or modified separately without disruption the functions of the whole system. For example, if our SQL database is managed by the database layer one change the database without making any changes to our application or presentation layer. Also it bring much more productivity to the developers as each allocated developer can work on different layer at the same time without making changes like one works on UI changes while other work on database changes. Three-tier pattern increases a web applications’ flexibility and it enables developers to reuse the existing code and scale the web applications when needed it. So it allows the web application to be easily expanded with the minimal use of the code such as the addition of new database and features. Another advantage is that it brings improved security in the web application since the application layer and database layer is placed independently from another layer. As there is strong indirectness and less dependency between each layer so if such component is compromised there is much lower risk factor due to having these structures.

