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## **Modeling Turkey National 2D Geo-Data Model as a CityGML Application Domain Extension in UML**

**Serpil Ates Aydar , Tahsin Yomralıođlu and Elif Demir Özbek**

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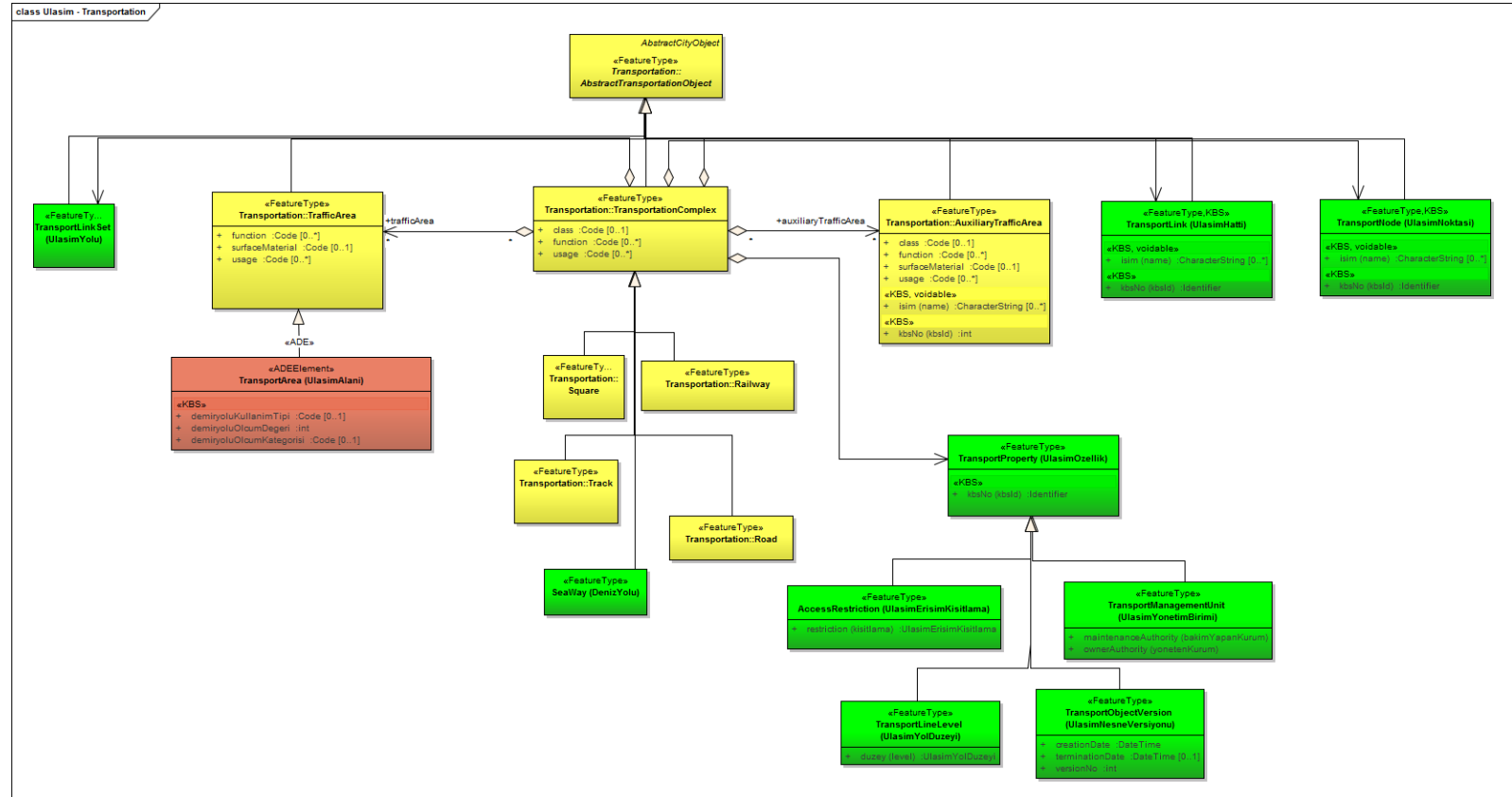


Fig 4. CityGML-TRKBIS.Transportation ADE

**References****Conclusions and Further Research**

In this paper a new geo-data model for two data theme (TRKBIS.BU and TRKBIS.TP) of Urban GIS Turkey has been proposed to be used as a common 3D geo-data model for storage and exchange of information about large-scale applications. This is the first study on extending CityGML data model according to Turkey national large-scale geo-data model for 3D applications. The developed models are mainly based on ADE mechanism of CityGML and provides integration between national data models and international CityGML standard.

The developed ADE's might be used as examples for developing CityGML compatible data models for other domains. The follow-up research will look at a generic approach to 3D geo-data model for Turkey. In this concept, all other data themes in Urban Geo-Data Model of Turkey (TRKBIS) will be remodelled according to CityGML data model with the help of experiences gained from CityGML-TRKBIS.BI application. Currently the research on mapping other data themes of TRKBIS is running in parallel and as a result; a Turkey national large-scale 3D information model that covers all classes of existing 2D urban geo-data model (TRKBIS) and that is based on OGC CityGML standard will be developed.

Many further research topics are also identified during developing process of the CityGML-TRKBIS.BI ADE. Firstly, we have to do more research to identify how the new model works with real data. For this purpose, example 3D TRKBIS data is required at different levels of detail. Secondly, further work is needed for generating GML application schemas from identified UML models. In addition, encoding code list values with appropriate structure (SKOS, OWL, etc.) needs further attention.

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