

## ARRANGEMENT IN THE GEOMETRY OF İSMET İNÖNÜ BOULEVARD HIGHWAY AND OMÜ RECTORATE TRAM STOP

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### ABSTRACT

Light Rail System Functions such as bus stop, pedestrian crossing, level crossing, intersection at the intersections of railways and highways are important in terms of urban transportation modes. In the area to the west of the OMU RECTORATE (University of Ondokuzmayıs Rectorate) stop in Atakum district of Samsun province, the stop area previously arranged for ring buses, the extension of the light rail system line towards OMU HOSTEL'S has become dysfunctional. In this study, instead of the bus stop, which has become dysfunctional, the curved part of the highway has been linearized, the parking pocket has been arranged, and the road geometry has been made more effective and safe.

**Keywords**— Highway regulation, junction, intersection, pathway, parking pocket, tram stop, tram route, level crossing

### INTRODUCTION

In the west and east of the OMU RECTORATE stop on İsmet İnönü Boulevard in the Atakum district of Samsun province, there were bus ring stops created when the business was first opened. These ring buses were carrying passengers since there was no railway between OMU RECTORATE and OMU HOSTEL'S. Later, when the railway line construction was completed in this section in 2017, the passenger transportation of the ring buses in this section was canceled. As a result, these ring bus stops have become dysfunctional. The section with the bus stop in the west of this area was combined with the highway and the curved part of the road was arranged with this study.



Figure 1. Before the Railway Extension is completed (2017)



Figure 2. After the Railway System is completed (2021)

In this section, with the completion of the railway line, the ring buses were canceled and the bus stop pockets in this area became dysfunctional. In this part, with the presence of the curve on the highway, the braking distances of the vehicles are extended, the brake linings of the highway vehicles are deformed early, more fuel consumption occurs and the road traffic delay times increase. At the same time, traffic safety is more risky due to the fact that the highway is curved.

### EDITING IN HIGHWAY GEOMETRY

First, detailed investigations and observations were made on the highway. Then, the location was determined on the existing map file of the area. Later, road geometry was arranged in highway standards and the traffic safety of the road was made more convenient. Pedestrian crossings have been arranged. In addition, a park and ride point, that is, a parking pocket, has been created near the tram stop for road vehicles.



Figure 3. Current Map View





Figure 4. Street View

## PROJECT WORK

In order to create lane discipline on the highway, shoulder widths of 0.50 m and lane widths of 3.50 m were designed. In order to maximize traffic safety, road discipline has been established and the curve part has been extended to the highway in a linear way. Here, 2.00 mt pavement width is left.

In addition, a 2.50 m wide parking pocket is reserved. The reason for the separation of the parking pocket is that in modern transportation cities, PARK AND RIDE points and bicycles and road vehicles are parked at the tram stop and the transportation of people continues with public transportation modes. Thus, a parking pocket was created in this project work. In addition, it has been ensured that the asphalt surface of approximately 950 m<sup>2</sup> remaining from the curve and the bus stop can be transformed into a green area.



Figure 5. Project Work

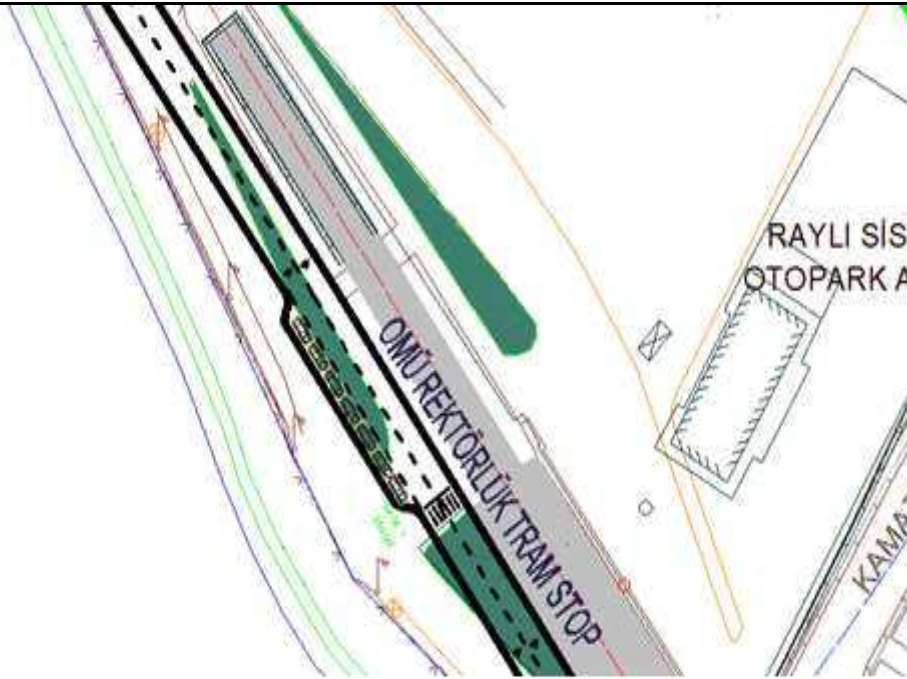


Figure 6. Arranged Highway Section, Green Area and Refuge Converted to Asphalt, Pedestrian Crossing, Park Pocket

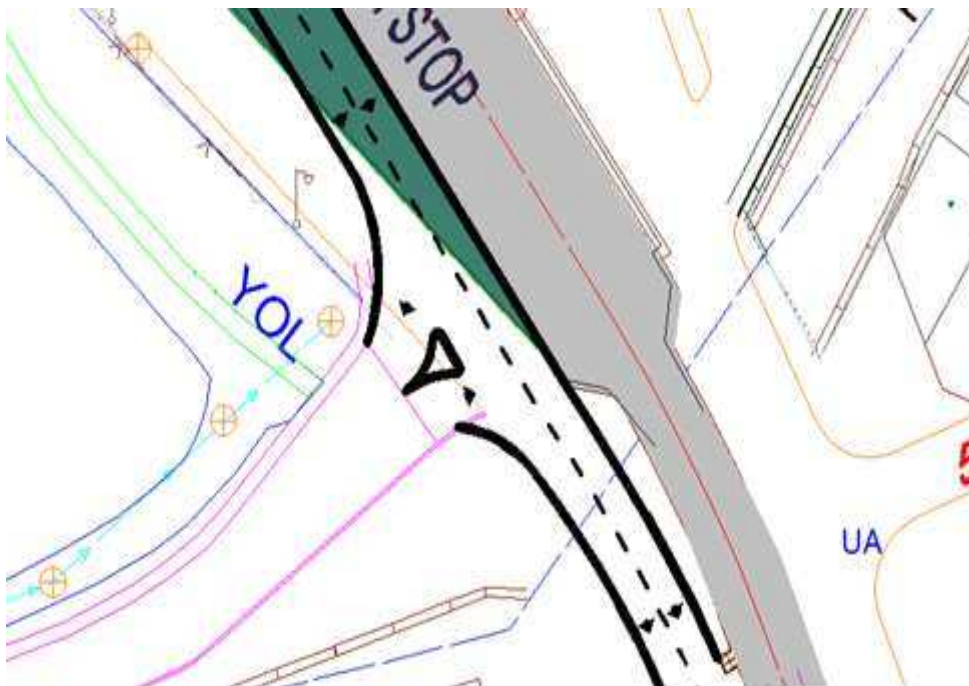


Figure 7. Junction Geometric Arrangement

## CONCLUSION

With this study, a highway arrangement was made in the part where the tramway, tram stop, bus lines planned when the light rail system was opened, and İsmet İnönü Bulvarı OMÜ Rectorate tram stop, where the bus stop works as a complex system. The highway curve has been made linear, road and rail traffic safety has been enhanced, and a parking pocket has been arranged for pedestrian crossings and road vehicles. Apart from this, approximately 950 m<sup>2</sup> of green area has been gained with the arrangement.

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