

Research Trends and Results

Sharing knowledge for more effective and more efficient traffic safety measures

KIMURA Yasushi, Research Engineer

OHASHI Sachiko, Senior Researcher (Dr. Eng.)

YABU Masayuki, Head

Advanced Road Design and Safety Division, Road Department

(Key words) Traffic safety measures, human causes of accidents, speed reduction structures

1. Introduction

Traffic accidents, which are a serious road traffic safety problem, are caused by three elements—people, roads, and vehicles—and preventive measures are taken from the perspectives of people, roads, or vehicles. But, even when a traffic safety measure is taken to deal with a road related accident factor, if people do not use the road safely, the measure will not be fully effective. And if the road users do not even understand the purpose of the measure, it will be difficult to gain their approval of its implementation.

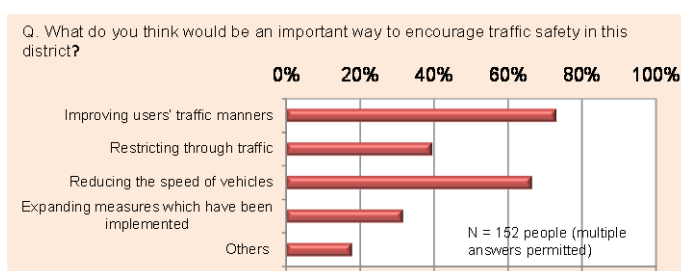
So in order to introduce traffic safety measures more effectively and more efficiently, we are conducting research to share knowledge about the purposes of traffic safety measure and methods of safely using roads with road users. This report introduces this effort.

2. Traffic safety measure and road users' traffic manners

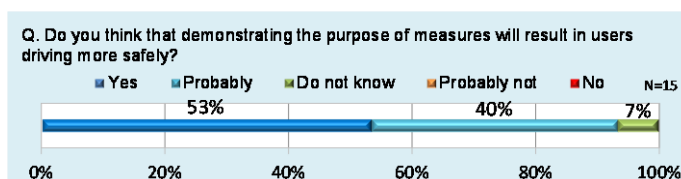
Traffic safety measures on wide roads such as arterial roads include measures such as building sidewalks or installing guard fences etc. to directly separate vehicles from pedestrians, but on residential roads for example, roads are narrow so measures that can be taken are limited. Therefore, reducing speed from the road side or improving road users' awareness are major elements of traffic safety. We conducted a questionnaire survey of the issue, "important ways to encourage traffic safety in this district" in one district in Tsukuba City where residential road traffic safety measures had been taken, resulting in many of the respondents pointing out "reducing the speed of vehicles" along with "improving users' traffic manners" (see Fig. (a)). And in answer to the question, "Do you think that demonstrating the purpose of measures will result in users driving more safely?", more than 90% answered either "Yes" or "Probably" (Fig. (b) top), while in response to the question "Do you think that the purposes and intentions of measures are shown to users?", only about 40% answered "Yes" or "They generally are" (Fig. (b) bottom), showing they believed that telling road users the purposes and intentions of measures will contribute to safer road use.

Based on the above findings, we will organize

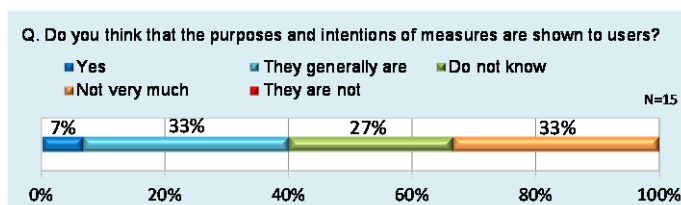
Figure. Results of Questionnaire Survey of Local Residents



(a) Important ways to encourage traffic safety



(b) Purposes of traffic safety measures



knowledge including the purposes of measures, primarily traffic safety measures taken on residential roads within the district etc., examples of dangerous situations and traffic accidents that result from road users' carelessness etc., and safe road use methods that will avoid these situations, and we will prepare documents to clearly communicate these kinds of knowledge to road users in easy to understand form.

In the future, we will clarify and verify the effectiveness of sharing this knowledge in districts where traffic safety measures have actually been taken, and at the same time propose this as one measure to reduce traffic accidents (methods and tools for communication with road users to avoid traffic accidents).