

Full Length Research Paper

Public opinions about the use of highways as scenic roads: The sample of Erzurum – Çaykara – Of route

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In this questionnaire study, which was conducted to determine public opinions and expectations about the use of highways as scenic road in order to contribute the aim, an alternative road, Erzurum - Çaykara - Of route, which connects Eastern Anatolia Region to Eastern Black Sea Region, was evaluated. Questionnaire survey was conducted over 110 people who had previously seen, used or known the route and χ^2 test and frequency distribution methods were applied to evaluate the results. It was found from the analysis that participants considered Uzungöl Nature Park to be the most preferable while Erzurum - Alkali route to be least preferable. Of the participants 40.9% stated that they preferred Bayburt – Of route because they liked the scenes on this route while 19.1% claimed that the scenes on the route of Erzurum - Bayburt are beautiful. It was also determined that 50% of the participants preferred Soğanlı Mountains on Bayburt to Çaykara route since they like adventure and the reason why they are impressed by the journey through Soğanlı Mountain is the scenic beauty, which is in the first row for significance order. In the order of deficiencies on the route, traffic security took place in the first order. Among the tourism activities which can be performed in the study area, plateau tourism and winter tourism took place in the first two rows whereas safari was at the last row. As a result of the study, it was determined that study route should be evaluated as scenic road.

Key words: Scenic quality, questionnaire, Erzurum-Bayburt-Çaykara-Of highway route.

INTRODUCTION

Among the engineering structures humans constructed in order to turn the world into a suitable place for their utilisation and lives, highways are the most effective on nature. Highways seeming to have constituted a network on the world should not only be the planning elements which divide landscapes they pass through, should also be the elements which can be combined with landscape. Changing conditions of urban life increase in the number of motor vehicle ownership over especially the last sixty years and improvements in road construction technologies have caused consistently increasing people mobility (Öztürk, 2002). Roads are among the most effective landscape elements which can construct relationships between human beings and nature. People can see and recognise natural values only in the areas where they can access. However, highways are among the manmade structures which have the largest unfavourable effects on highways (Bilican, 1995).

Roads are the areas where people are in the closest relationship with green sites in urban areas. A road can separate or tie green and structural areas; prevent horizontal and vertical ugly views, connect rural and urban areas and increase the relation between human and nature. With the functions such as direction of people to some important points, stress on some elements, confinement of the drivers' interests, shading effect on paused traffic, providing security for pedestrians, green areas can contribute to traffic techniques (Aslanboğa, 1986). Vegetation, historical values, land use, socio economic structure, provision of fascinating and pleasurable journey to both drivers and passengers, presence of attractive focal points and hidden areas with ugly appearances are among the important elements in the evaluation of the roadside landscape (Özgünç, 1999; Brown, 2003). The efforts to achieve aesthetical principles along a road are performed to provide a pleasurable journey and functional transportation, achieving safety and increase aesthetical quality of the road. Visual quality is the evaluation of visual landscape considering the features of form, proportion, line and mass. Methods

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which evaluate landscape characteristics and quality considering the needs of drivers should be given places in the highway planning. Type of the road is an important factor in planning. Role of people in the constitution of roadside aesthetics is the determination of alternatives according to preference of community (Schutt et al., 2001; Shafer et al., 2000). Preservation of scenes in the planning of highways increases the value of road. Topography, vegetation, tissue, visibility, natural and cultural features and legal limits should be investigated. Local councils should determine the standards around the highways and take required measures in order to preserve scenes (Anonymous, 1986).

Dearden (1981) conducted a study to determine whether public participation is desirable in landscape quality assessment by investigating the types of participation from the sections of community. It was concluded in the study by investigating the potential role of people in landscape assessment that public participation could have favourable effects on the foundation of landscape assessment principles.

Brown et al. (1986) stated that aesthetic quality of landscape is related with the scenic and aesthetical needs of people and in this respect it is important to use improved visual assessment method. Akbar et al. (2003) conducted a questionnaire survey over 183 people in North England in order to assess road side scenic beauty of prevalent vegetation stating that 83% of the participants reported that no significant differences between the studied routes. In that study, majority of the subjects stated that vegetation around the route is boring and not pleasant and varied plant covers may affect positively the scenic beauty instead of homogenous one preferring the use of trees, blooming plants, herbals and native grass species.

However, they did not support the large expenses for replacement of existent plant cover in order to increase scenic beauty values. In another questionnaire survey study, which was carried out to determine public preferences in the selection of highway route, Eby and Molnar (2002) found road safety, scenic beauty and presence of facilities such as hotel, motel and camping areas to be significant features. In a study in Canada, aim of which was to determine public opinions about highway scene, by Froment and Doman (2006) suggested that vegetation and natural scenes are effective on scenic value. Canads et al. (2009) in their study, aiming to determine public bias towards assessing scenic quality of a given area, used simple statistical approaches and constituted a model.

In their survey questionnaire conducted over 183 subjects, they divided the considered landscape characteristics into three categories as physical (water features, land forms, vegetation, fauna, cultural values), aesthetical (form, colour, texture), psychological (effect and expression). Yilmaz et al. (2007) stated that Landscape preference factors were obtained from a survey composed of random pairs of photographs of landscapes from different city. User surveys are important sources of the

the healthy planning in cities. In the present study, evaluation of Erzurum-Çaykara-Of highway route as scenic road was taken into consideration as inspiring from the studies out of Turkey, which used public survey questionnaires. This route is an alternative short cut to the Of district governed from the city of Trabzon from the city of Erzurum in the place of normal route Erzurum - Bayburt - Gümüşhane -Trabzon - Of. A questionnaire survey was conducted over the people who used or knew this little known route. Using the results from the survey scenic quality of the road, deficiencies in facility and safety around the road, requirements and problems attempted to be determined.

MATERIALS AND METHODS

State highway of E 97, the part of D925 highway and leading from Erzurum through Çaykara to Of (Trabzon), was chosen to be study route. Figure 1 represents the study route. People from the cities of Erzurum, Trabzon and Bayburt use this road. There are regular coaches from Erzurum to Bayburt using the road. However, since the road is too narrow and has sharp bends between Bayburt city centre and Çaykara district, it is very difficult to travel by coaches. There are again regular coach and minibus services from Çaykara to Of.

Three different climate, vegetation and culture types are seen along the route. It is possible to see three different natural and cultural characteristics on the route. The route is branched towards Çaykara from Bayburt city centre. Continental climatic characteristics are prevalent between Erzurum and Bayburt. In this part of the road there is a high mountain, Kop Mountain, and this passage is covered mostly with snow and causes road to become closed for traffic. There is another mountain, Soğanlı Mountain on the study route between Bayburt and Çaykara. The mountain represents different climate types on its south and north aspects, which are passage type and Black sea climate. Between Bayburt and Soğanlı Mountain there is a passage climate characteristic from continental to maritime and from Soğanlı Mountain to Of district maritime climate is prevalent. Natural plant cover, cultural and social structures have been developed depending on the climatic characteristics. Figure 1 shows the location of the study route.

Participant people are the individuals living in the cities of Erzurum, Bayburt and Trabzon and knowing the study route. Totally 110 subjects were randomly selected and asked to complete a standard questionnaire form including 14 questions about demographic features and specific and general opinions for the area. Site specific questions are mainly about the reason why they prefer the route, whether or not they like its scenes, and what kind of deficiencies they see and what tourism types can be performed. With the questions with general purposes it was aimed to determine what may attract attention and what design principles should be followed. In the statistical analysis of the questionnaire outcomes, chi square test and frequency distribution analysis were applied.

RESULTS

According to frequency analysis of the demographic questions, it was determined that 34 participants (30.9%) were female and 76 (69.1%) were male; 19 were (17.3%)



Figure 1. Location of the study route.

between the ages of 18 and 25, 23 (20.9%) were 26 and 35; 40 (36.4%) were 36 and 45, 24 (21.8%) were 46 and 60, 4 (3.6%) were 61 and above; 58 (52.7%) were government officials, 3 (2.7%) were workers, 2 (1.8%) were farmers, 5 (4.5%) were tradesmen, 12 (10.9%) were unemployed, 15 (13.6%) were students, 6 (5.5%) were drivers, 9 (8.2%) were housewives; 13 (11.8%) were at a monthly income level between 0 and 500 Turkish Liras, 25 (22.7%) were 500 and 1000 TL, 32 (29.1%) 1000 and 1500 TL, 40 (36.4%) 1500 TL and above; 9 (8.2%) were primary school graduates, 8 (7.3) were secondary school graduates, 24 (21.8%) were high school graduates, 69 (62.7%) were university graduate. For the question about why participants prefer to use the study route instead of the more prevalently used main route to Trabzon from Bayburt and other districts, 10 (9.1%) participants stated that this route is more economical, 29 (26.4%) stated that it is a short cut and shortens the travel time, 45 (40.9%) stated that they like its scenic beauty, 15 (13.6%) stated that they have to use since their villages area on this route, 6 (5.5%) stated that they used this route to participate the festival in Soğanlı Mount, 4 (3.6%) stated other reasons. According to the results of the frequency analysis obtained from the questions about the area, it was found that 70 (64%) participants reported that they used Erzurum-Bayburt-Çaykara-Uzungöl route to go to

Uzungöl, 40 (36%) participants used Erzurum-Bayburt-Trabzon-Uzungöl route. Of the participants, 24 (21.8%) stated that the road between Erzurum and Bayburt does not have scenic beauty, 60 (54.5%) found this part of the route to have scenic beauty partly, 21 (19.1%) stated that this road has very beautiful scenes, 5 (4.5%) stated that they do not have any idea (Figure 2).

Participants were asked to evaluate the study route in the respect of scenic beauty. They ranked the parts of the route putting Uzungöl area (Uzungöl Natural Park, around lake, pension and hotel) at the first row, followed by the part between Bayburt and Çaykara (Bayburt Fortress and its proximity, Soğanlı Mountains, and Plateaus) at the 2nd row. Participants found the area between Alkali and Maden (Kop Mountain, Kop Mountain Veteran Yard, and ski centre) to be important at the 3rd row, the area between Uzungöl and Of (the districts of Çaykara and Dernekpazarı, Solakli creek and its proximity) to be at the 4th row, the area between Maden and Bayburt (Çoruh River, Masat Creek and their proximities) to be at the 5th row, and at the 6th row they found the area between Erzurum and Alkali (Agricultural lands, Karasu creek and its proximity; Figure 3).

The same ranking request was demanded from the participants for Bayburt-Çaykara-(Çaykara-Uzungöl)-Dernekpazarı-Of route for the scenic beauty and they

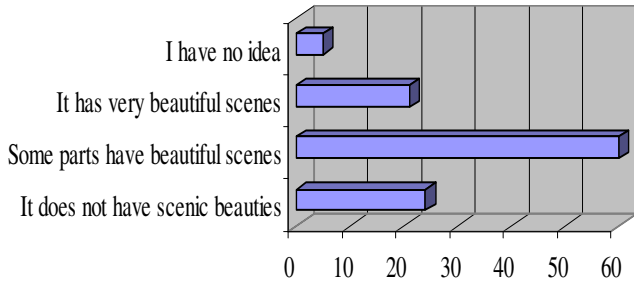


Figure 2. Responses of participants about the scenic beauty of Erzurum-Bayburt route.

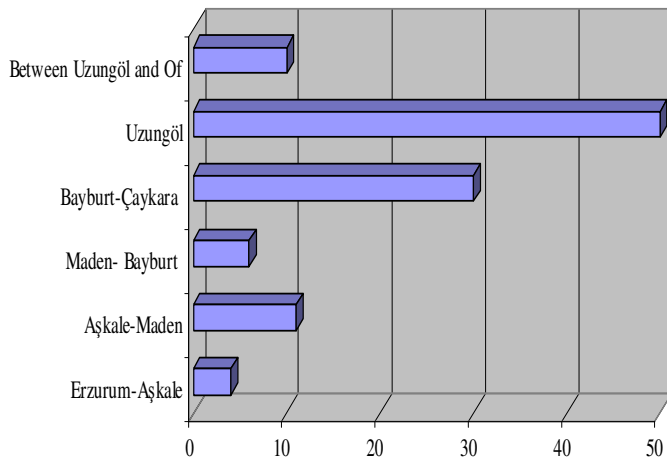


Figure 3. Ranking list of the parts on the study route according to the participants.

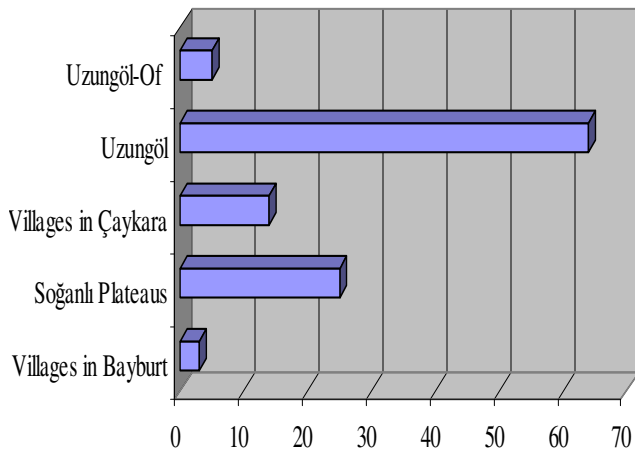


Figure 4. Ranking of the parts of the study route for scenic beauty.

preferred Uzungöl, Soğanlı Mount Plateaus, villages in Trabzon part of Soğanlı Mountain, Uzungöl-Of part, Bayburt part of Soğanlı Mountain and villages, respectively (Figure 4). For the question of how the participants

evaluate the part between Bayburt and Çaykara, half of them responded as that they enjoy adventure and driving this road, 13.6% stated that they do not like scenes but they prefer it since it is a shortcut, 10% stated that it is a very dangerous road and they do not like adventure, 3.6% stated that they do not use this route, 22.7% stated that they do not use this route since it is not open in every season.

To the question about the drawbacks of the route, participants replied at the first row that it is not safe for the traffic while they ranked the risks of avalanches, landslides and icing, lacking of breaking facilities, lacking of vegetation, being naked and arid, respectively (Figure 5). To the question about the possible tourism activities on and around the study route, participants replied as the plateau and winter tourism the most and safari tourism the least (Figure 6). To the question related to the facilities participants desire on the route, they demanded restaurant, shopping halls, motel, auto parks, camping area, respectively.

To the question what attracts their attention most outside the car, they responded as vegetation, authentic villages, rivers and lakes, weather events (fog, sun, and rain), interesting stones and rocks, wild life, agricultural areas and other landscapes, respectively (Figure 7). At the second stage of the questionnaire analysis, relation between demographic characteristics and public opinions about the route were determined using χ^2 test (Table 1).

Conclusion

In the present study, which was conducted in order to assess the study route in the respect of visual quality, a questionnaire survey was carried out to contribute to this assessment considering the public opinions. Questionnaire survey was conducted over the people who know the study route and it was found that 64% of them regularly use the route. Their primer preference for this use was found to be scenic beauty. Soğanlı Mountain passage between Bayburt and Çaykara is sometimes closed for traffic. This passage is generally covered with fog. There is a great scenic beauty between Soğanlı Mountain passage and Of especially until Karaçam village. This area can be suggested for those who enjoy being alone with nature and adventure. Half of the participants found this part of the study route to have pleasurable features.

About the festival on the study route participants do not have much information or they are not interested in it much since 5.5% used this rote for the festivals.

Landslide risk is present for the Black sea part of Soğanlı Mountain and also flood risk is possible between Çaykara and Köknar. After it begins to rain Soğanlı Mount becomes closed for the traffic. It generally is covered with fog in other seasons and this situation affects the corridor most adversely. Biological and technical measures should be taken to prevent the destruction of landslide

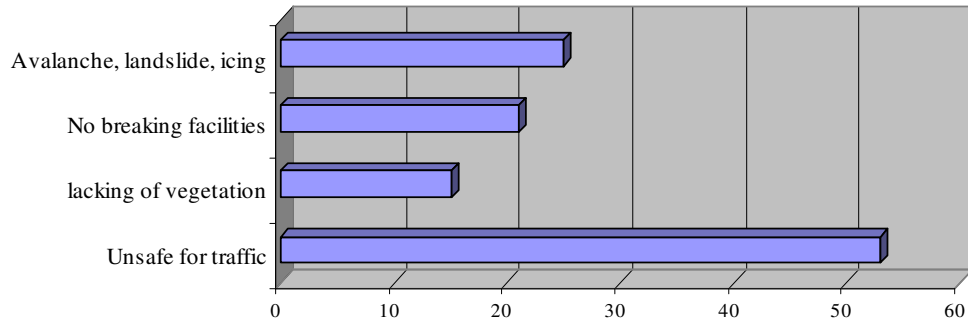


Figure 5. Ranking of drawbacks on the study route.

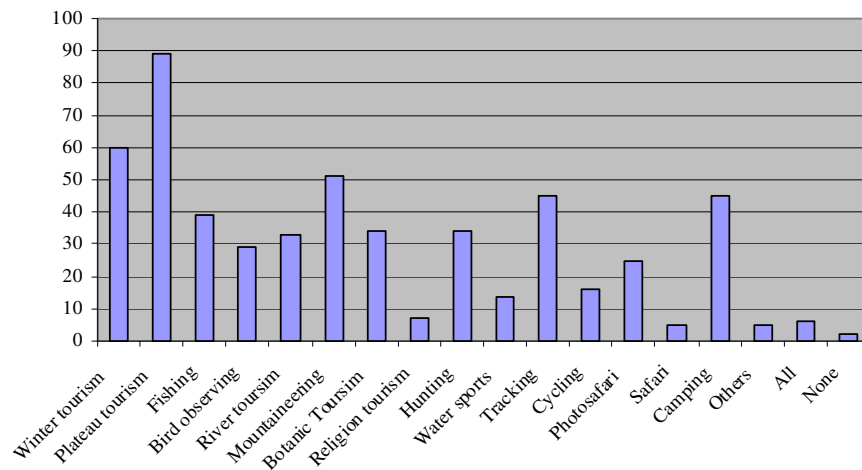


Figure 6. Possible tourism activities on the route according to the participants.

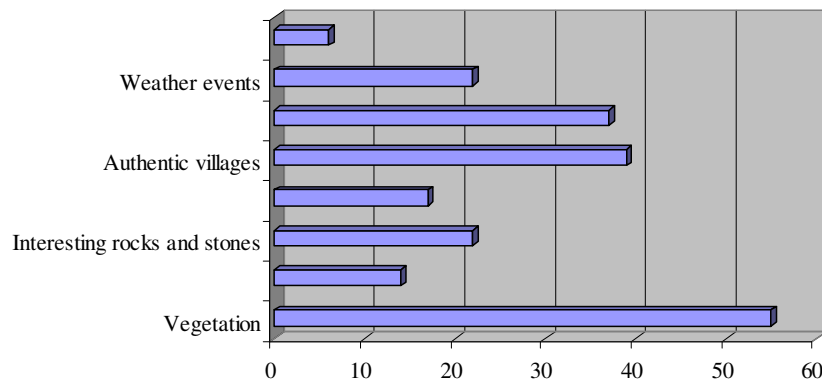


Figure 7. Attractive features of the route.

and floods. Required road safety should be provided by Turkish State Highway Management. Directing and lighting signs should be placed on the road. Uzungöl Nature Park in Uzungöl district attracts many domestic and foreign tourists each year. From the questionnaire survey, it was found that most of the participants enjoy

Uzungöl the most among the areas along the route. As the consequence of the study, it was found that Erzurum-Bayburt-Çaykara-Of highway route has scenic road values. In this respect, 40.9% of the participants preferred the route to experience its scenic beauty. It is worth seeing the beauty of Soğanlı Mountain. Participants

Table 1. Public opinions and demographic characteristics.

	Compared parameters	P values	Significance levels
Gender	Opinions about the scenic beauty of the study route	0.839	Insignificant
	Reason for the preference of the route	0.704	Insignificant
	Opinions about the route from Bayburt to Çaykara	0.022*	Significant
	Travel frequency	0.014*	Significant
	Desired facility types along the route	0.636	Insignificant
	Features attracting attention during travel	0.130	Insignificant
Age	Opinions about the scenic beauty of the study route	0.274	Insignificant
	Reason for the preference of the route	0.442	Insignificant
	Opinions about the route from Bayburt to Çaykara	0,003**	Very significant
	Travel frequency	0.395	Insignificant
	Desired facility types along the route	0.399	Insignificant
	Features attracting attention during travel	0.697	Insignificant
Occupation	Opinions about the scenic beauty of the study route	0.450	Insignificant
	Reason for the preference of the route	0.000**	Very significant
	Opinions about the route from Bayburt to Çaykara	0.835	Insignificant
	Travel frequency	0.009**	Very significant
	Desired facility types along the route	0.541	Insignificant
	Features attracting attention during travel	0.315	Insignificant
Income	Opinions about the scenic beauty of the study route	0.046*	Significant
	Reason for the preference of the route	0.444	Insignificant
	Opinions about the route from Bayburt to Çaykara	0.316	Insignificant
	Travel frequency	0.507	Insignificant
	Desired facility types along the route	0.381	Insignificant
	Features attracting attention during travel	0.349	Insignificant
Education	Opinions about the scenic beauty of the study route	0.694	Insignificant
	Reason for the preference of the route	0.000**	Very significant
	Opinions about the route from Bayburt to Çaykara	0.369	Insignificant
	Travel frequency	0.105	Insignificant
	Desired facility types along the route	0.210	Insignificant
	Features attracting attention during travel	0.470	Insignificant

*: $P < 0.05$ (significant), **: $P < 0.01$ (very significant).

preferred the route through Soğanlı Mountain for scenic beauty at the first row, and vegetation cover at the last. However, the most important element that provides scenic beauty for Soğanlı Mountain is vegetation cover on the aspect of the mountain to Black sea. It was observed that road is safe only from Erzurum to Bayburt, but between Bayburt and Of the road is not safe. Participants also reported that the largest deficiency on the route is problem in traffic safety. This road is a stabilized and distorted road and directing traffic signs are not enough. Landslide risk and foggy weather may reduce the traffic safety and participants found the route to be unsafe.

The corridor of the route passing through Soğanlı Mountain may be closed for the traffic. This situation of the route showed itself in the answer of participants as that 22.7% of the participants stated that they do not prefer this route since it is not open to traffic every season. However, this road can be used for the adventure purposes after making some corrections and taking some required measures related to the road with close coordination of Regional Highway Management and other institutions. Part of the route between Çaykara and Of has scenic beauty. Participants liked this part the most. However, on this part there are 12 sharp bends and steep and dangerous cliffs. Since the road is very narrow

and not in a good situation, it causes a very exhilarating voyage. Among the participants, 10% found this road to be very dangerous and they do not prefer to use it since they do not like adventure. Erzurum - Çaykara - Of highway route can provide possibilities for winter and plateau tourism because of Kop Mountains and plateau tourism due to Soğanlı Mountain. Participants found this route to be suitable for plateau and winter tourism at the first row and jeep-safari tourism at the last row. However, roads passing through Soğanlı Mountain are suitable for jeep-safari. In addition, bird observation, photo safari, botanic tourism, trekking, horse riding, mountain biking, camping tourism, paragliding and fishing can be suggested for the route. From the questionnaire, 40.9 of the participants preferred the study route in order to watch the scene of Soğanlı Mountain. It was consequently stated in the study that sites where facilities such as hotels, motels or bungalows are located and which can attract the attention of people should be constructed, safety of the road should be increased, it should be used in every season and required measures should be taken for this, this route should not be considered only as an alternative shortcut route from Erzurum to Trabzon but its scenic values should be publicized for tourism and recreation and nature education programmes should be planned.

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