

Attributes and Amenities of Highway Systems Important to Tourists

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Tourism and Transportation

- Tourism is a system (not an industry) with transportation as a major component
- Highways have been neglected as part of the user experience
- Domestic rural tourism in the U.S. heavily dependent on highway infrastructure
- Is there an economic relationship?

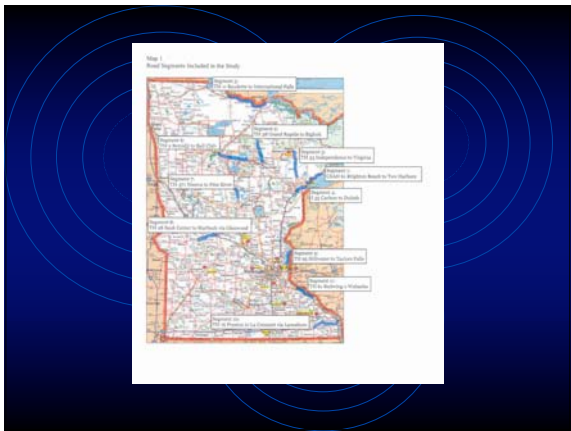
Research Design

- Survey Instrument
 - Benefits
 - Reasons for Highway Selection
 - Driving Attitudes
 - Road Features

Tourists Interviewed along Highway

**Table 1
Description of Road Segments**

| Segment | Segment Length | Mn/DOT District | Number of lanes | Divided/Not Divided | Natural Elements |
|--|----------------|-----------------|-----------------|---------------------|--------------------------|
| 1 St. Louis CSAM 61 Brighton Beach Road to Two Harbors | 16 miles | 11 | 2 | Not Divided | Lake, cliffs, forests |
| 2 TH 38 Grand Rapids to Bigfork | 40 miles | 1 | 2 | Not Divided | Lakes, forests, hills |
| 3 TH 53 Independence to Virginia | 39 miles | 1 | 4+ | Divided | Lakes, forests |
| 4 I 35 Carlton to Duluth | 15 miles | 1 | 4+ | Divided | Lake, city, harbor |
| 5 TH 11 Baudette to International Falls | 60 miles | 2 | 2 | Not Divided | Forests, lakes |
| 6 TH 2 Bemisgo Eau Claire | 45 miles | 2 | 2 | Not Divided | Lakes, forests |
| 7 TH 371 Neveva to Pine River | 29 miles | 3 | 2 | Not Divided | Lakes, forests |
| 8 TH 28 and TH 29 Sauk Centre to Starbuck via Glenwood | 40 miles | 4 | 2 | Not Divided | Lakes, woods, farmland |
| 9 TH 95 Taylors Falls to Beaver | 26 miles | Metro | 2 | Not Divided | River, woods, cliffs |
| 10 TH 16 La Crescent to Preston via Lanesboro | 46 miles | 6 | 2 | Not Divided | Forests, cliffs, river |
| 11 TH 61 Red Wing to Wabasha | 29 miles | 6 | 2 | Not Divided | Mississippi River, trees |
| 12 Nicolet CSAM 21 81.5 to Fort Ridgely State Park | 16 miles | 7 | 2 | Not Divided | River, woods, farms |



- ## Findings
- Roads have distinct and recognizable character
 - Highway attributes/amenities with the most difference
 - Vegetation
 - Business development
 - Scenic vs fastest route
 - Shoulder and safety issues

Table 2
Most Interesting Aspects of Flood Segments

| Segment | Small towns | Lakes and rivers | Farms | Recreational opportunities | Natural scenery | Historic or cultural sites | Shopping | Forests | None of these |
|---------|-------------|------------------|-------|----------------------------|-----------------|----------------------------|----------|---------|---------------|
| 1 | 16.1% | 70.0% | 3.5% | 19.2% | 79.4% | 16.1% | 10.1% | 27.3% | 1.5% |
| 2 | 9.8% | 68.8% | 1.3% | 24.8% | 83.8% | 10.3% | 1.7% | 46.2% | 0.9% |
| 3 | 26.1% | 55.7% | 5.9% | 17.7% | 84.7% | 20.6% | 7.1% | 54.5% | 6.6% |
| 4 | 18.5% | 63.0% | 16.5% | 30.3% | 76.6% | 23.3% | 18.3% | 35.7% | 11.8% |
| 5 | 20.4% | 77.1% | 24.7% | 31.4% | 78.2% | 35.0% | 5.9% | 40.5% | 1.5% |
| 6 | 47.4% | 77.8% | 16.5% | 35.0% | 86.9% | 29.1% | 8.9% | 61.4% | 5.2% |
| 7 | 39.7% | 50.5% | 5.4% | 22.5% | 63.7% | 4.4% | 21.1% | 26.5% | 4.4% |
| 8 | 39.2% | 46.0% | 27.7% | 9.4% | 60.4% | 2.8% | 3.3% | 5.2% | 5.7% |
| 9 | 43.5% | 60.0% | 10.6% | 18.4% | 88.6% | 25.0% | 12.7% | 21.6% | 0.0% |
| 10 | 42.4% | 54.0% | 10.9% | 43.9% | 73.1% | 8.8% | 1.9% | 20.3% | 5.6% |
| 11 | 51.8% | 77.8% | 9.9% | 28.0% | 79.5% | 25.2% | 21.3% | 22.6% | 3.8% |

- ### User Segments
- Driving for Pleasure
 - Engage in low cost entrance/exit activities
 - Looking for small towns
 - Being with F&F, get away, enjoy scenery
 - Scenic Byway selectors
 - Something special to be found
 - Safe and Fast (10-15%)

- ### Concerns
- Does preference lead to action?
 - Limited to summer driving
 - Only contacted people who were stopped

Conclusions

- Users of road segments were able to differentiate between the attributes and amenities found along a particular road and indicate their preference for each one.
- There is strong evidence that different user groups using the same roadway seek different benefits from the driving experience.

Next Steps

- Development of a Diagnostic Tool for User Evaluation of Highways
- Laboratory testing using Human Factors Simulator
- Test for psychological and physiological response
- Create an easy to use instrument for highway evaluation
