Mobility as a Right

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Whether the transportation system in a democracy should be designed so that everyone has access to mobility will influence the principles guiding the design and development of the transportation system and which technologies are advanced and to whom they are accessible. Philosophical and political arguments are presented for and against mobility as a right. The question of whether mobility is a right is then addressed from the perspective of individuals who were randomly surveyed. The results of the random survey are compared with a separate and smaller sample of the population. Recommendation for further research is presented.

IMPORTANT OF TRANSPORTATION SYSTEM PRINCIPLES

It is imperative to define the principles that founded transportation systems. Principles underlying transportation system architecture address how the system should be designed, how it should operate, and what it should achieve. In the absence of clearly articulated and integrated principles, transportation is reduced to a random collection of modes, and improvements are reduced to uncorrelated installation of new technologies. With explicit transportation principles, transportation can become a coherent system composed of integrated modes. Advances in transportation can then become the coherent incorporation of appropriate technologies that improve performance as a whole.

The clear articulation of transportation system principles is appropriate to the review and assessment of alternative, advanced system architectures. Transportation has increasingly been understood as essential to the national and international economy. New technologies are being introduced that will change how persons, goods, and information are moved. It is important that these technologies are part of a principled system architecture.

Change in transportation is taking place within and among nations. The United States, the European Community, and Japan are redesigning their transportation systems. In the United States, an intelligent transportation system is being developed through the leadership of ITS America. In the European Community, telematics are being implemented formally through DRIVE. Informal groups, such as the European Community Telework and Telematics Forum (ECTF), are exploring telecommunications and transportation. In Japan, diverse groups are involved in advanced transportation. One of these is the Liaison Council for IVHS, which is a consortium of the Japan Traffic Management Technology Association, the Highway Industry Development Organization, and the Association of Electronic Technology for Automobile Traffic and Driving.

Clearly defined principles are needed to guide and direct such national and international change. Principles are needed for movement of goods and information. Among principles associated with the movement of people, one principle should address access to mobility.

TRANSPORTATION SYSTEM PRINCIPLE: MOBILITY AS A RIGHT

The transportation system principle addressed in this paper is whether mobility is a right. In a democracy, this should be consid-
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ere one of the principles on which a transportation system should be designed and developed. There are arguments for and against mobility as a right.

An argument against mobility as a right is that the meaning of a "right" is diluted if all human interests or desires are confused with guaranteed rights. We may want all people to be able to move physically from one site to another, but this is not a right guaranteed to all citizens. Mobility is not necessary for life, liberty, and the pursuit of happiness.

The opposing argument is that mobility is intertwined with rights of life, liberty, and pursuit of happiness. This is experienced by people unable to reach medical care or safe haven, who have restricted or no employment because they cannot reach the workplace, or who have little if any opportunity to enjoy recreational facilities. Mobility is necessary for life, liberty, and the pursuit of happiness.

A second argument against mobility as a right is conflict between increased mobility and the common interest in quality of life and protection of the environment. If all individuals exercised a right to mobility, there would be an increase in vehicle miles traveled (VMT) on the transportation system. Increased VMT consumes energy and contributes to congestion and air pollution. This would suggest that individual mobility should be maintained or reduced, but not increased.

The argument for mobility as a right is that access to mobility does not mean increased vehicle travel. Ensuring access to mobility may be realized by enhancing or expanding nonmotorized travel, light rail, transit, or paratransit services. Access to mobility could increase miles traveled but not necessarily personal motorized vehicles. Importantly, any restrictions on mobility should be equitably addressed to all people, not secured by intentionally withholding or tacitly accepting limited access by a segment of the population.

A third argument against mobility as a right is that the issue should be addressed as access rather than mobility. Access can be provided through other means, including electronic communication. Rights such as the pursuit of happiness do not require spatial mobility. Rather, what is required is access to experience or information.

The argument for mobility as a right is that electronic communication is a choice among modes and does not replace the imperative to provide spatial mobility within the society. There is also a concern that the people without spatial mobility may be those with least access to the information superhighway. Social equity does not occur when some are able to choose spatial mobility and others have a different and perhaps difficult choice made for them.

A fourth argument against mobility as a right is cost. The nation is confronted with difficult economic challenges. We cannot afford to ensure mobility to everyone. If mobility were accepted as a right, there would be an expectation that could not be realized.

The argument for mobility as a right is the unacceptable human and social cost of not providing access to mobility. Lack of mobility reduces employment, and may systematically contribute to geographic unemployment. Tolerating inequity breeds a social cynicism that rights are afforded only to those who can afford to secure them. Identical access to mobility may be neither economically feasible nor desirable. However, this is not required for acceptance of mobility as a right. Mobility as a right implies commitment to and design for some access to mobility for all.

The arguments for and against mobility as a right represent some of the differences in how people think about this subject. A survey was conducted to better understand perceptions about mobility, and how those perceptions relate to demographic characteristics.

PUBLIC SURVEY: IS MOBILITY A RIGHT?

During the period of 1992-1994, the Alliance for Transportation Research (ATR) developed a model for statewide intermodal planning. ATR is a partnership among the New Mexico State Highway and Transportation Department, Los Alamos National Laboratory, Sandia National Laboratories, the University of New Mexico, and New Mexico State University. The private contractor for this work was Barton-Aschman and Associates, working on behalf of the state of New Mexico and in cooperation with the U.S. Department of Transportation.

Part of the intermodal model was the design and implementation of a statewide conference to involve everyone who uses the transportation system. In addition to traditional participants in transportation conferences, the event coordinators sought and successfully involved the physically and mentally challenged, homeless, unemployed and underemployed, and people whose primary languages were other than English. This diversity of involvement required lengthy preplanning and public interaction.

Public Survey

A survey was conducted to help guide the intermodal conference. The survey identified public attitudes in the state of New Mexico concerning the transportation system. Issues surveyed included adequacy of transit service and reasons people selected transportation modes.

The survey was distributed in September 1993 at the New Mexico State Fair, held in Albuquerque, New Mexico. Surveys were distributed and discussed on shuttle buses serving the fair, and at a fair booth operated by the state transportation agency. Surveys were also conducted on shuttles at a festival in Las Cruces, New Mexico.

There were approximately 1,600 random surveys collected at these sites. The results reflected a broad range of citizens from throughout the state.

There was concern that distribution of the surveys on a shuttle bus might skew the survey results toward the views of transit users. This proved not to be a problem. Reflective of relatively low population density and limited transit operations, 93 percent of the respondents reported they used transit occasionally or not at all. It should be noted that a survey in New Mexico may not be representative of attitudes across the nation as a whole. There is a predominantly rural orientation, combined with diverse and strong cultural identities.

In addition to the random sample, there were approximate 300 surveys distributed to individuals in special-interest groups. It has been noted that there is cultural diversity in New Mexico. Native American and Hispanic organizations were contacted and helped support the survey of special-interest groups. Physically and mentally challenged individuals were particularly of interest in the survey and the conference. The effort to survey these individuals served to identify concerns of citizens who had not previously participated in public meetings or conferences on transportation in the state. Of the 300 special surveys distributed, approximately 150 complete responses were received. Because they were not random, these surveys were not included in the survey summary statistics. A later section of this paper compares the results of the special survey and random survey on the question of mobility as a right.

Survey Response

Each person surveyed was asked if he or she considered mobility a right. The question was worded as follows: Do you believe that the
ability to get where you want to go in a reasonable time and for a reasonable cost is or should be a basic right in the same sense as freedom of speech or the pursuit of happiness? Overall, 58.9 percent responded yes, they believed mobility to be a right; 20.8 percent responded no; 13.2 percent were uncertain; and 7.1 percent did not respond.

Excluding surveys without a response, 63.8 percent of the respondents affirm mobility as a right, 22.7 percent deny mobility as a right, and 13.5 percent are uncertain (Table 1). The percentages in Table 1 reveal that the conviction of mobility as a right declines with increasing income. Approximately 72 percent of the people in households making an annual income of less than $15,000 believe that mobility is a right, contrasted with 54 percent for households with incomes in excess of $40,000.

Responses by income and gender were examined. Of the survey respondents, 216 (13.3 percent) did not report household income, and 117 (7.2 percent) did not report gender. There were 1,333 (82.3 percent) respondents who answered income, gender, and whether or not mobility is a right. For the purposes of this comparison, non-responses and responses of "uncertain" were removed. Of those who made an affirmative or negative response, 73.9 percent believe mobility is a right (Table 2).

For surveys included in Table 2, mobility was considered a right by 84.1 percent of respondents from low-income households. This figure successively dropped to 76.4 percent of respondents from middle-income households, and 61.4 percent of upper-income households.

A comparison of responses to mobility as a right by both income and gender is interesting. Males are slightly more likely to consider mobility a right than females for households making less than $15,000 annually. In these lower-income households, 85.3 percent of males and 83.1 percent of females consider mobility a right.

In middle- and upper-income households, more females than males consider mobility as a right. The difference between male and female responses also increases with income. The difference in response by gender becomes most prominent in higher-income households, for which 56 percent of males and 65.7 percent of females consider mobility a right.

Survey responses by age and gender were also compared. Of the 1,616 surveys collected, 1,501 surveys contained responses to age and mobility as a right. Of these, 951 considered mobility as a right; 214 were uncertain. Overall, excluding the uncertain responses, 73.9 percent consider mobility a right. Women were more likely to consider mobility a right than men: 76.8 percent of women and 68.8 percent of men affirmed mobility as a basic right.

There is no apparent tendency or progression in attitude toward mobility as a right as people age, for either males or females. For all age groups 18 years and older, women are more likely than men to consider mobility a right. The exception is people under the age of 18, where males are more likely than females to consider mobility a right.

Table 3 presents the percentage of respondents who were uncertain whether mobility is a right. These percentages are by age group and gender. Beginning at age 18 or older, as males age they tend to be progressively more certain of whether mobility is a right. Male uncertainty concerning mobility as a right declines from 18.6 percent in the 18–30 age group to 6.9 percent for males over the age of 64. Uncertainty about mobility as a right among women ages 18 and older is clustered between 12 percent and 16 percent.

Comment on the Survey Results

The survey identified a relationship between household income and perception of mobility as a right. The survey indicates that mobility is more likely to be considered a right by lower-income people and females. To the extent that the transportation system design and development process includes representation of diverse income and gender, the system may be expected to reflect the perspective that mobility is a right.

Comparison of the Random and Special Surveys

In addition to the 1,600 random surveys, there was a separate, special survey of 300 individuals. Of these surveys, 159 complete responses were received, tabulated, and summarized. The subset of the general population was composed of the homeless, unemployed and underemployed, people whose primary language is not English, and the physically or mentally challenged. These surveys were facilitated by diverse support groups, including Good Will, Good Shepherd Homeless Shelter, Self-Help for the Hard of Hearing, CASA–Hispanic Protection and Advocacy, American Association of Retired Persons, and the Association for Retarded Citizens.

Of those in the special survey, 64.0 percent believe mobility is a right, and 16.4 percent believe it is not a right. This is similar to the general-population, random survey results.

### TABLE 2 Responses by Income and Gender

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (%)</td>
<td>No (%)</td>
<td>Uncertain (%)</td>
</tr>
<tr>
<td>Under $15,000</td>
<td>71.7</td>
<td>13.6</td>
<td>14.7</td>
</tr>
<tr>
<td>$15,000 to $40,000</td>
<td>65.6</td>
<td>20.3</td>
<td>14.1</td>
</tr>
<tr>
<td>Over $40,000</td>
<td>54.4</td>
<td>34.1</td>
<td>11.5</td>
</tr>
<tr>
<td>Total</td>
<td>63.8</td>
<td>22.7</td>
<td>13.5</td>
</tr>
</tbody>
</table>

*Note: Non-responses excluded.

### TABLE 3 Ratio of Responses of Uncertain to Total Responses

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Male (%)</th>
<th>Female (%)</th>
<th>No Response (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 18</td>
<td>16.1</td>
<td>24.1</td>
<td>0</td>
<td>20.2</td>
</tr>
<tr>
<td>18 to 30</td>
<td>18.6</td>
<td>14.6</td>
<td>0</td>
<td>15.6</td>
</tr>
<tr>
<td>31 to 45</td>
<td>12.5</td>
<td>14.9</td>
<td>0</td>
<td>14.0</td>
</tr>
<tr>
<td>46 to 64</td>
<td>11.8</td>
<td>12.2</td>
<td>0</td>
<td>11.9</td>
</tr>
<tr>
<td>Over 64</td>
<td>6.9</td>
<td>15.3</td>
<td>0</td>
<td>11.1</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>15.9</td>
<td>8.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Total</td>
<td>11.6</td>
<td>14.7</td>
<td>5.6</td>
<td>13.2</td>
</tr>
</tbody>
</table>
As in the random survey, the special survey results are closely coupled with household income. The percentage of people who believe mobility is a right declines as household income increases. Excluding surveys without a response, 79.7 percent of people with annual household incomes of less than $15,000 believe mobility is a right; 59.6 percent with annual incomes between $15,000 and $40,000, and 43.5 percent with incomes over $40,000.

The special survey response by gender and income revealed the same pattern identified in the random survey. At the lowest household income in the special survey, a higher proportion of males than females considers mobility a right: 82.6 percent of males and 72.7 percent of females. In the middle-income group of the special survey, a higher proportion of females (66.7 percent) than males (50 percent) considers mobility a right. Of the highest household income group in the special survey, substantially more females (47.4 percent) than males (20 percent) consider mobility a right.

On the question of mobility as a right, the views represented in the special survey were similar to those of the randomly sampled general population. The special survey results underscore the relationship between household income, gender, and attitude toward mobility as a right.

RECOMMENDATION FOR CONTINUING RESEARCH

The survey in New Mexico suggests a possible reason for the discontinuity of transportation system design and limited service: the people advising and helping design, implement, and evaluate the system may not represent the full population; and the difference in approach to mobility may be different between those represented and those not represented. Inclusive representation in transportation system architecture is a subject recommended for further research.

The survey of New Mexico opinion concerning mobility as a right provides insight into one southwestern state. A national survey should be undertaken to better understand the public perception of mobility as a right.

SUMMARY

It is a time of historic change in transportation. Transportation is moving from conventional separation of modes to an integrated system. Intelligent transportation systems are being designed. Alternative architectures and associated technologies are being proposed.

This paper recommends inclusive teams to design these new transportation systems. These teams should clearly identify the principles on which the systems are based. Beyond system architecture, inclusive teams and clearly established principles should be part of the common daily workings of an advanced transportation system.

The survey results suggest that the principle of mobility as a right should be considered representative of public opinion. The conclusion reached by the authors of this paper is that access to mobility is inextricably related to basic individual rights and should therefore be considered a right in the design and development of our nation’s transportation system. This right should be ensured so that all people have access to mobility, and that restrictions on mobility for environmental or other purposes should be as equitably applied as access. This right should be ensured so that alternatives to physical mobility are choices also equitably offered. This right can and should be ensured by public planning processes and infrastructure investment strategies that provide access to mobility for all.

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