# Neg

## Anthro

### Shell

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#### Policymakers only care about anthropocentric effects of transportation infrastructure – ignore indirect effects

Bennett, Smith, and Betts 11 (Victoria J. Bennett is a postdoctoral research associate, Department of Forest Ecosystems and Society, Oregon State University; Winston P. Smith is a research wildlife biologist, U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station; Matthew G. Betts is an assistant professor of landscape ecology, Department of Forest Ecosystems and Society, Oregon State University, 2011, United States Department of Agriculture, “Toward Understanding the Ecological Impact of Transportation Corridors,” www.fs.fed.us/pnw/pubs/pnw\_gtr846.pdf //nimo)

Transportation corridors (notably roads) affect wildlife habitat, populations, and entire ecosystems. Considerable effort has been expended to quantify direct effects of roads on wildlife populations and ecological communities and processes. Much less effort has been expended toward quantifying indirect effects. In this report, we provide a comprehensive review of road/transportation corridor ecology; in par- ticular, how this new field of ecology has advanced worldwide. Further, we discuss how research thus far has shaped our understanding and views of the ecological implications of transportation infrastructures, and, in turn, how this has led to the current guidance, policies, and management options. We learned that the impacts of transportation infrastructures are a global issue, with the potential to affect a wide variety of taxonomically diverse species and ecosystems. Because the majority of research to date has focused on the direct and more aesthetic and anthropocentric implications of transportation corridors, mainly wildlife-vehicle collisions, it is a fairly standard practice to incorporate underpasses, green bridges (i.e., overpasses), fencing, and barriers into road corridors to alleviate such impacts. Few studies, however, have been able to demonstrate the efficiency of these structures. Further- more, it is becoming increasingly evident that the indirect implications of transpor- tation infrastructures (i.e., behavioral responses of wildlife individuals to roads) may be more pervasive, at least from the standpoint of biological diversity. Under- standing how road corridors influence the functional connectivity of landscapes is crucial if we are to effectively manage species of concern. With these issues in mind, we propose a program of study that addresses the indirect and cumulative implications of transportation infrastructure on species distributions, community structure and ecosystem function

#### Computational sciences make anthropocentric assumptions about intelligence

Spivey 2000 (Michael J. Spivey, Professor, School of Social Sciences, Humanities and Arts, UC Merced, March 2000, Connection Science 12.1, “Turning the tables on the turing test: The spivey test,” proquest: http://search.proquest.com/docview/206818438 //nimo)

After several decades of research in artificial intelligence (AI) (e.g. Turing 1950, Rosenblatt 1961, Winograd 1972, Rumelhart and McClelland 1986), and even in comparative cognition (e.g. Schusterman et al.1986, Zentall 1993, Hauser 1996), the cognitive, neural and computational sciences are still loathe to let go of their markedly anthropocentric criteria for `intelligence'. Indeed, the only non-subjective evidence that humans are thinking reasoners at all is the mere fact that most of them vehemently claim to be thinking reasoners. Of course, it is trivially easy to program a computer to insist that it is an intelligent, thinking reasoner as well. Rather than allow a oneline BASIC program to be accepted as `intelligent', most researchers would prefer to set the bar a little higher. Therefore, a more stringent test is necessary.

#### Anthropocentric logic dooms us to a world of calculation and domination—all life on earth is reduced and banished

Kevin Michael DeLuca, Associate Professor of Speech Communication and adjunct in the Institute of Ecology at the University of Georgia, author of *Image Politics: The New Rhetoric of Environmental Activism* and numerous articles exploring humanity-nature relations and technology, 2005, “Thinking with Heidegger Rethinking Environmental Theory and Practice”, in Ethics & the Environment 10.1 p. 67-87

Machination is unconditional controllability, the domination of all beings, the world, and earth through calculation, acceleration, technicity, and giganticism. Calculation represents a reduction of knowing to mathematics and science and a reduction of the world and earth to what is calculable, a step taken decisively by Descartes (1999, 84–96). Machination is the "pattern of generally calculable explainability, by which everything draws nearer to everything else equally and becomes completely alien to itself" (1999, 92). The unrestrained domination of machination produces a totalizing worldview that enchants: "When machination finally dominates and permeates everything, then there are no longer any conditions by which still actually to detect the enchantment and to protect oneself from it. The bewitchment by technicity and its constantly self-surpassing progress are only *one* sign of this enchantment, by **[End Page 75]** virtue of which everything presses forth into calculation, usage, breeding, manageability, and regulation" (1999, 86–87). Heidegger prophetically predicts that machination will produce "a gigantic progress of sciences in the future. These advancements will bring exploitation and usage of the earth as well as rearing and training of humans into conditions that are still inconceivable today" (1999, 108). Animals and plants are reduced to various forms of use value and, more significantly, are banished from Being-in-the-world with us: "What is a plant and an animal to us anymore, when we take away use, embellishment, and entertainment" (1999, 194). "Nature" suffers a similar fate: "What happens to nature in technicity, when nature is separated out from beings by the natural sciences? The growing—or better, the simple rolling unto its end—destruction of 'nature'.... And finally what was left was only 'scenery' and recreational opportunity and even this still calculated into the gigantic and arranged for the masses" (1999, 195). Under the unrestrained domination of machination, humans suffer a "hollowing out" (1999, 91, 348) and Being-in-the-world is replaced by "adventures." (I am here translating *Erlebnis* as adventure. Others translate it as lived-experience.)

#### We must question whether our political strategies reiterate anthropocentric logic

Kevin Michael DeLuca, Associate Professor of Speech Communication and adjunct in the Institute of Ecology at the University of Georgia, author of *Image Politics: The New Rhetoric of Environmental Activism* and numerous articles exploring humanity-nature relations and technology, 2005, “Thinking with Heidegger Rethinking Environmental Theory and Practice”, in Ethics & the Environment 10.1 p. 67-87

The question moves, then, from asking whether a strategy is effective or moral, to asking, "Does a strategy contribute to machination?" As our discussion should have made clear, machination is about a logic, not a particular machine. (This same point is true of Heidegger's later critique of technology.) Heidegger's critique of the logic of machination has the advantage of being able to be clearly distinguished from any particular machine or technology. Machination, to reiterate, is a logic characterized by calculation, giganticism, acceleration, and technicity wherein animals, plants, and the earth become objects, mere resources, and humans, also, are reduced to the service of a ravenous progress. To ask if a strategy contributes to machination, then, is to ask **[End Page 76]** whether it contributes to the degradation of the earth and the hollowing-out of the world, a particularly pressing question for environmentalists. Obviously, then, the mainstream strategy of setting up headquarters in the political center (Washington, D.C.) of global capitalism—arguably the finest manifestation of the logic of machination; and adopting such practices as lobbying, trading favors, making cash donations, doing fund-raising, hiring MBAs and lawyers to run operations, exchanging board memberships with major corporations, producing glossy magazines funded by advertising from car companies and other suspect sources, practicing media spin and public relations as if environmental groups are no different (except poorer) than GE, Exxon, Monsanto, and Union Carbide, is suspect. Mainstream groups have consciously adopted the politics, organizational structure, and discourse of machination. Yet even the practices of radical grassroots groups that eschew central organization and its attendant dangers deserve scrutiny. Beginning with Greenpeace in the 1970s and intensifying in the 1980s with the emergence of wilderness and environmental justice groups, the radical environmental movement has increasingly relied on managing images and manipulating media, in fact practicing what could be considered an oppositional grassroots public relations. If public relations, along with advertising, is the discourse of machination, a discourse of empty words in service of giganticism (bigger is better) and progress (newer is better), what are the consequences when radical environmental groups deploy that very discourse in efforts to reach the public through mass media? What are the consequences when Greenpeace champions the cause of furry baby harp seals at the neglect of less photogenic indicator species? Are the effects of this any different from when the much more compromised World Wildlife Fund (WWF) adopts the panda as its symbol and cause celebre? What are the consequences when Earth First!, the environmental justice group Kentuckians For The Commonwealth, and other grassroots groups conform to the constraints of the mass media (stunning images, sound bites, conflict focus, emotional appeals, and so on) and deploy the practices of public relations in order to stage image events? Is it possible to fundamentally challenge machination while using the techniques of machination? These are not rhetorical questions. I do not have the answers and I do not think there are easy answers. Instead, Heidegger offers the environmental movement the admonishment to question what **[End Page 77]** it takes for granted, to think about the presuppositions and practices that are reflexively deployed as a matter of course.

## States

### Solvency

#### Text: the necessary fifty states and relevant territrories should uniformly implement intelligent transportation systems. The counterplan will be funded via interstate compact and establish a commonshared tax

#### Transportation initiatives are best local; federal government isn’t necessary and local governments are sufficient

Transportation for America, October 2010 (White Paper; Smart Mobility for a 21st Century America, p.26)

The Twin Cities Metropolitan Area is using innovative solutions to relieve congestion on major highways in the region, with a particular focus on Interstate 35. The effort, part of a Minnesota Urban Partnership Agreement (UPA), utilizes a suite of intelligent transportation approaches, sometimes known as the 4Ts: Tolling, Transit, Telecommuting/ Travel Demand Management and Technology. The Minnesota UPA involves ITS technologies like real-time traffic and transit information, transit signal priority, and guidance mechanisms for shoulder-running buses. These technologies will significantly reduce travel time for riders. “Trip time will be about half an hour. We’ll offer six trips in the morning and six trips home in the afternoon,” Bob Gibbons, a spokesman for Metro Transit, told Minnesota Public Radio. First, the city is converting existing bus-only shoulder lanes and High Occupancy Vehicle (HOV) lanes along portions of the Interstate into wider lanes with prices that vary based on occupancy. Cars with only one occupant will have to pay a toll to access the lanes during peak hours, with prices set to ensure free-flowing travel. City officials say this will enable bus speeds to increase to 50 mph from the current bus-only shoulder lane speeds of 35 mph or less. Second, a portion of the toll revenues from the new lanes will fund significant fare discounts for transit riders taking trips using the new facilities during peak periods. In and around the I-35W corridor, transit services will increase and a bus rapid transit network will be created, utilizing at least 27 newly purchased transit vehicles. There are also plans for six new park-and-ride lots with more than 1,400 additional spaces. Third, new dynamic message signs and some existing signs will inform travelers about the availability of the lanes for non-bus use, toll rates for when the lanes are available, travel speeds on priced lanes versus on general purpose lanes and transit alternatives. The final element of the Minnesota UPA is telecommuting. This locally funded effort will focus on expanding upon the successful Results-Only Work Environment program, in which employers agree to provide employees the flexibility to telecommute or shift their hours to avoid congested commutes. Approximately 75 percent of Best Buy’s 4,500 corporate office employees participate in ROWE. Officials are targeting large employers, including the 20 Fortune 500 companies in the region, for participation, with the goal of reducing 500 daily peak-period trips throughout the corridor.

## Elections

### A2 Link Turn

#### ITS is negatively percieved – spending and visibility

**GAO ’05** [“Intelligent Transportation Systems' Promise for Managing Congestion Falls Short, and DOT Could Better Facilitate Their Strategic Use” http://www.gao.gov/products/GAO-05-943]

In addition, ITS applications sometimes have limited public and political appeal. We have reported in prior work that public input and political considerations shape transportation investment decisions. However, unlike capital improvements that build or expand new roads and those that preserve existing roads, the benefits of traffic operations improvements such as ITS are not always visible to the public. According to DOT officials, deteriorating roadways, like those with potholes and other physical problems, affect the public’s ability to drive on the road. Conversely, many ITS applications that are not operating well or need maintenance, like nonworking message signs or delayed traffic signals, do not necessarily affect the public’s ability to drive on the road in an obvious way. As a result, drivers may not realize that a failing ITS application could be contributing to congestion. One state responded to this public perception issue by ordering a shut down study so that levels of congestion with and without ITS could be compared. In 2000, the Minnesota legislature passed a bill to study the effectiveness of ramp meters due to public questioning of the effectiveness of ramp meters on freeways. The state undertook a study that demonstrated the effectiveness of the ramp meters and increased public support for the ramp meters.34 The state DOT conducted two, 5-week studies—one with the ramp meters in operation, the other without—and estimated that ramp meters annually saved 25,121 hours in travel time, 2,583,620 hours of unexpected delay, and 5.5 million gallons of fuel. Consequently, commuter support for ramp meters significantly increased.35 However, in the absence of such studies, the public may not realize the potential benefits of ITS deployment and therefore may not support them as much as the more visually obvious benefits of such things as improved road surface conditions. Moreover, several officials in the metropolitan areas we visited agreed that investments in system “enhancements,” such as ITS, are not as politically appealing as expanding roadways. Specifically, Chicago and San Francisco transportation officials stated that since ITS applications do not usually offer groundbreaking ceremonies, which offer positive media attention, politicians are generally not motivated to support ITS projects. In its role of encouraging interest in ITS, DOT has taken steps to counter this lack of appeal for ITS technologies, such as establishing the benefits database we previously described. In addition, according to DOT officials, DOT division staff advertise the benefits of ITS or suggest it as a way to mitigate congestion to state and local transportation officials. Furthermore, DOT officials are planning to develop lessons learned information from studies of ITS technologies to share with states and localities on how to implement effective ITS applications. This is important information to begin disseminating as we found that DOT’s benefits database did not consistently provide information on lessons learned for maximizing the benefits of ITS, even when that information was included as part of a study summarized in the database. For example, a study of the impacts of call boxes in Georgia provided lessons-learned information on reducing maintenance costs to improve the cost-effectiveness of the deployment, but the summary in the ITS benefit database did not include this information. DOT officials acknowledge that lessons learned information is needed to provide practitioners with helpful advice on how to cost effectively deploy ITS. Consequently, DOT plans to unveil a new database in September 2005 that will provide lessons learned information from the ITS studies and other sources. Although DOT has undertaken these efforts to make ITS more appealing, DOT’s ability to affect state and local decisions to deploy ITS has been limited by its inability to use funding incentives to encourage ITS. As we previously noted, although TEA-21’s ITS integration program included funding to help state and local governments integrate ITS technologies, Congress has fully designated this funding. Moreover, the extent to which DOT’s benefits database is helping to counter the limited public appeal of ITS deployment is unclear. In 2004, we found that although useful, impact analysis such as benefit-cost information does not play a decisive role in many investment decisions.36

## Computational Science

### A2 Bio-Attacks

#### Human diversity, medicine and evolutionary limits check.

Gladwell 95 [Malcolm, New York bureau chief of The Washington Post, New Republic, July 17]

This is what is wrong with the Andromeda Strain argument. Every infectious agent that has ever plagued humanity has had to adopt a specific strategy, but every strategy carries a corresponding cost, and this makes human counterattack possible. Malaria is vicious and deadly, but it relies on mosquitoes to spread from one human to the next, which means that draining swamps and putting up mosquito netting can all but halt endemic malaria. Smallpox is extraordinarily durable, remaining infectious in the environment for years, but its very durability, its essential rigidity, is what makes it one of the easiest microbes to create a vaccine against. aids is almost invariably lethal because its attacks the body at its point of great vulnerability, that is, the immune system, but the fact that it targets blood cells is what makes it so relatively uninfectious. I could go on, but the point is obvious. Any microbe capable of wiping us all out would have to be everything at once: as contagious as flu, as durable as the cold, as lethal as Ebola, as stealthy as HIV and so doggedly resistant to mutation that it would stay deadly over the course of a long epidemic. But viruses are not, well, superhuman. They cannot do everything at once. It is one of the ironies of the analysis of alarmists such as Preston that they are all too willing to point out the limitations of human beings, but they neglect to point out the limitations of microscopic life forms. If there are any conclusions to be drawn about disease, they are actually the opposite of what is imagined in books such as The Hot Zone and The Coming Plague. It is true that the effect of the dramatic demographic and social changes in the world over the past few decades is to create new opportunities for disease. But they are likely to create not homogeneous patterns of disease, as humans experienced in the past, so much as heterogeneous patterns of disease. People are traveling more and living in different combinations. Gene pools that were once distinct are mixing through intermarriage. Adults who once would have died in middle age are now living into their 80s. Children with particular genetic configurations who once died at birth or in infancy are now living longer lives. If you talk to demographers, they will tell you that what they anticipate is increasing clusters of new and odd diseases moving into these new genetic and demographic niches. Rare diseases will be showing up in greater numbers. Entirely unknown diseases will emerge for the first time. But the same diversity that created them within those population subgroups will keep them there. Laurie Garrett's book is mistitled. We are not facing "the coming plague." We are facing "the coming outbreaks."

#### Self-interest means no extinction.

MacPhee and Marx 98 [Ross, American Museum of Natural History and Preston, Aaron, Diamond AIDS Research Facility, http://www.amnh.org/science/biodiversity/extinction/Day1/disease/Bit1.html]

It is well known that lethal diseases can have a profound effect on species' population size and structure. However, it is generally accepted that the principal populational effects of disease are acute--that is, short-term. In other words, although a species many suffer substantial loss from the effects of a given highly infectious disease at a given time, the facts indicate that natural populations tend to bounce back after the period of high losses. Thus, **disease as a primary cause of extinction seems implausible**. However, this is the normal case, where the disease-provoking pathogen and its host have had a long relationship. Ordinarily, it is not in the pathogens interest to rapidly kill off large numbers of individuals in its host species, because that might imperil its own survival. Disease theorists long ago expressed the idea that pathogens tend to evolve toward a "benign" state of affairs with their hosts, which means in practice that they continue to infect, but tend not to kill (or at least not rapidly). A very good reason for suspecting this to be an accurate view of pathogen-host relationships is that individuals with few or no genetic defenses against a particular pathogen will be maintained within the host population, thus ensuring the pathogen's ultimate survival.

## Econ

### Congestion – Density Solves

#### Status Quo solves congestion – density and urbanization

**Schmitt 5/18/12** [Angie Schmitt, master’s degree in urban planning founding editor of Rust Wire, a collaborative media project exploring the struggles of cities in industrial Midwest. <http://www.planetizen.com/node/56885>]

Does walkable development really lead to worse traffic congestion? Opponents of urbanism often say so, citing impending traffic disaster to rally people against, say, a new mixed-use project proposed in their backyards. But new research provides some excellent evidence to counter those claims. A recent study by the Arizona Department of Transportation [PDF] found that neighborhoods where houses are closer together actually have freer-flowing traffic. Researchers compared some of greater Phoenix’s denser neighborhoods – South Scottsdale, Tempe, and East Phoenix — with a few of its more sprawling ones – Glendale, Gilbert, and North Scottsdale. Some interesting patterns emerged. In the more compact neighborhoods, the average household owned 1.55 cars, compared to 1.92 in more suburban areas. Residents of higher-density neighborhoods also traveled shorter distances both to get to work and to run errands, the study found. The average work trip was a little longer than seven miles for higher-density neighborhoods; in the more suburban neighborhoods, it was almost 11 miles. Residents of the three compact neighborhoods traveled just less than three miles to shop, while residents of sprawling locations traveled an average of more than four miles. All of this led the more urban dwellers to travel an average of nearly five fewer miles per day than their suburban counterparts. The density divide also played an important role in transit use. Rates varied from as high as eight percent transit ridership in high-density neighborhoods to as low as one percent in the more sprawling areas. All of this translated into a reduced strain on roadways in the places that had more people — running counter to one of the strongest objections to mixed-use development. Comparing one suburban corridor to two of the streets in the more dense neighborhoods, the study found that on the more urban streets, traffic congestion was “much lower,” or about half as high (measured by the ratio of the capacity of the roadway to the actual volume of cars on it). How did more compact neighborhoods manage to have less congestion? It’s not just because residents there drive less overall. Two design characteristics also ease traffic, according to AZ DOT. Fine-grained street networks distributed traffic evenly across the higher-density neighborhoods, while every driver in the suburban neighborhoods was funneled onto the same big arterials. At the same time, improved pedestrian conditions in commercial centers made it easier for some drivers to park once and walk from destination to destination, taking cars off the road precisely in the areas that attract the most people. The results of the Arizona study may not apply everywhere, due to the state’s extremely spread out pattern of development. The higher-density neighborhoods still only had between six and seven households per acre, compared with between three and four in the lower-density places. As the report notes, “By Eastern U.S. standards, all of these densities are effectively suburban in character.” But the report controls for a host of factors, strengthening the conclusion that the different travel behaviors were really the result of design, rather than income, say, or the student population. The Arizona Department of Transportation deserves credit — first of all, because this is a fantastic, thorough, well-timed study, but also for pointing out the important policy implications. The agency’s recommendations include a public awareness campaign about the benefits of mixed-use, compact development; better planning and public engagement tools; and providing incentives for smart planning. The authors noted, for example, that outdated policies sabotage planning efforts that are beneficial for livability, public health, and the environment in the name of maintaining traffic flow. The supreme irony — in light of the study results — is that these policies ultimately fail the congestion test too: Local planners and planning commissions are still using traditional traffic engineering approaches to assess the impact of development projects. By looking only at traffic congestion levels on adjacent links, ignoring through travel, and failing to account for the efficiencies of mixed-use development on lower vehicle trip rates and VMT, progressive projects are likely to be rejected or unreasonably downsized. The DOT also concludes that congestion isn’t always a bad thing, that density is the key to successful transit, and that short blocks are critical for building vibrant, mixed-use places.

## Solvency

### ITS Fails – Instiutions

#### ITS Fails – human interatcions and deployment coordination

**Saxton and Lay 2K** [Rodney Lay, Group Leader tran of transportation systems planning for the MITRE corporation, R & D Staff for the USDOT Ubran Mass Transportation program, specialist in advanced technology systems for the federal highway adminstraton, and correspondent for natonal geographic, “Vehicle–Highway Automation

Directions, Challenges, and Contributing Factors” <http://onlinepubs.trb.org/onlinepubs/millennium/00144.pdf>]

Challenges The advantages of automation will have political and institutional costs. For example, the process of deployment of vehicle–highway automation projects will raise several crucial issues. The dilemma requires coordinated development and implementation of both vehicle and roadway infrastructure systems. A largescale deployment would require successful resolution of challenging institutional issues such as · Can the vehicle and infrastructure developments be coordinated and synchronized? · Can the investment and financing be obtained? · What are the net environmental impacts? · How are land use policies affected? · How are liability, insurance, and risk factors partitioned? Although an automated highway system may not require a significant amount of right-of-way acquisition, it may still require considerable modification to current highways. This could include the addition of segregated lanes within space-constrained rights of way, the increased complexity of highway-highway interchanges that require continuous segregation of the automated traffic from the conventional traffic, and the adaptation of access and egress points to accommodate increased traffic volumes. FUTURE RESEARCH AND DEVELOPMENT Vehicle–highway automation is a sufficiently new field that many important research and development issues remain to be addressed. Some of the most challenging research issues involve the need to understand human interactions with automation technologies. Surprisingly little of this is understood today, and much research is still needed on issues such as · Driver attentiveness during partially and fully automated driving; · Making successful transitions among manual, partially automated, and fully automated driving (in both directions); · Potential changes in driving behavior when warning, control assistance, or automated systems are available (risk compensation, decrements in driving skills, etc.); and · Acceptability and desirability to drivers of different levels of warning, control assistance, and automation. Many of the vehicle–highway automation systems are intended to improve traffic safety, but the data and tools needed to determine their effects on safety are not yet available. Considerable research attention needs to be devoted to increasing understanding of traffic safety problems and the ways in which the automation systems may influence them: · Precise identification of hazards in the driving environment, including issues such as the types of obstacles that could be encountered on the road; Quantitative description of the driving environment in which the new systems must be able to operate; and · Comprehensive baseline data to define the causes of the crashes and nearmisses that occur today and the extent to which these could be mitigated (or possibly exacerbated) by use of automation technologies. The largest effects on the transportation system will be produced by the most advanced of the vehicle–highway automation systems, the truly automated highway system. Although it is clear that this provides the opportunity for a significant increase in highway capacity, considerable research is still needed to develop the underlying theory, as well as the models, to define the full range of the effects it can have on issues such as · Changing travel patterns, by time of day as well as origins and destinations; · Potential for stimulating latent and induced travel demand, with possible net environmental consequences; · Interactions of entering and exiting traffic with the rest of the transportation network; · Changes in public perceptions of the nature of travel itself; and · Net safety of travel, in both automated and manual modes of operation. To realize the potential for great benefits, many remaining research issues must be studied intensively in the next millennium.

### ITS Fails – Personnel

#### Lack of local commitment and expertise kills solvency

**GAO ’05** [“Intelligent Transportation Systems' Promise for Managing Congestion Falls Short, and DOT Could Better Facilitate Their Strategic Use” http://www.gao.gov/products/GAO-05-943]

According to metropolitan transportation officials and as we previously reported in a 1997 report, another barrier state and local transportation agencies face when selecting and implementing ITS is a lack of appropriate skills and knowledge needed for selecting and operating ITS technologies.38 This lack of skills exists both in transportation agencies and, according to transportation officials in one metropolitan area, in consultants that agencies hired to help them purchase and deploy ITS technologies. According to DOT officials, it is often hard to find people who are knowledgeable in both of two fields that are important for fully understanding ITS applications—traffic systems and electrical engineering. Consequently, some transportation agencies hire contractors to perform some of the technology functions associated with ITS. In Las Vegas, however, transportation officials told us that consultants lacked needed skills as well. As a result, localities may face difficulties selecting and procuring appropriate systems for their areas. For example, according to an FHWA official, a lack of business knowledge led a San Francisco Bay Area agency to lease rather than purchase telecommunications lines needed for transmitting data from roadway sensors—a decision that ended up costing the agency money in the long run. According to DOT officials, DOT has taken numerous actions to address the lack of technical expertise; however, external factors have limited DOT’s ability to resolve this issue. DOT provides technical assistance through FHWA. FHWA divisions in each state work with state and local transportation agencies to provide needed technical assistance. FHWA’s resource center offices are staffed with technical experts in various fields including operations and ITS and thus provide state and local officials across the country with more specific technical expertise and support when needed.39 In addition, FHWA headquarters office offers a number of additional resources such as training programs, guidance documents, technical assistance, and a Peer-to-Peer program that facilitate the exchange of technical expertise across different locations. Finally, DOT also has a professional capacity-building program that is designed to help state and local transportation officials gain the expertise necessary to install ITS applications. In addition to DOT training, several universities have developed programs to provide intelligent transportation education to develop the skills needed in the ITS industry. Both the University of Michigan and the Virginia Polytechnic Institute and State University have developed programs, as has the Consortium for Intelligent Transportation Education housed at the University of Maryland. DOT officials believe, however, that **the lack of technical expertise will remain until an institutional change in transportation agencies occurs--a change that increases emphasis on operations**.

### ITS Fails – Standards

#### No ITS Implementation – private and local standards prevent integration

**GAO ’05** [“Intelligent Transportation Systems' Promise for Managing Congestion Falls Short, and DOT Could Better Facilitate Their Strategic Use” http://www.gao.gov/products/GAO-05-943]

Another barrier that has limited the deployment and integration of ITS is that state and local decision makers do not have enough of the technical standards needed to select ITS equipment that can integrate with other systems.40 Having technical standards is important because purchasers who adhere to the standards can avoid being locked into proprietary systems that cannot integrate with those of other manufacturers and for which replacement equipment or service may not be available if the vendor goes out of business. According to transportation officials we spoke with, in some cases, the lack of standards may have discouraged state and local decision makers to invest in ITS technologies; in other cases, the lack of ITS standards may have led to the deployment of ITS technologies that could not easily be integrated with other technologies within or across metropolitan or rural areas. In each of the metropolitan areas we visited, state and local transportation officials stated that DOT has facilitated the issuance of standards slowly and that this has limited the confidence officials have in the technology they select. For example, an official in Chicago told us that the lack of standards has resulted in the agency not knowing if it is purchasing quality ITS applications. In another example, a San Francisco official stated that the slow completion of the standards development process at the national level caused transportation officials to pick a standard in the draft stage that they hope will have the ability to connect with future ITS deployment in the area. According to DOT, although it has worked to facilitate the issuance of technical standards, technology has been developing faster than the SDOs that DOT works with can handle. Furthermore, the issuance of standards by SDOs is done voluntarily, and there is no private-sector market influencing speedy issuance—the SDOs do not have a profit incentive in issuing standards. DOT has accelerated development of over 100 standards and identified 17 standards critical to ensure ITS operability across the country. However, according to DOT officials, standard setting is a difficult, consensus driven, and time-consuming process.

## Turn – Risk Compensation

### 1NC

#### Road safety measures increase accidents – that turns their internal links to econ

**Adams ’10** [John Adams, Emeritus Professor of Geography at University College London, fellow at Goodenough college, “Managing transport risks: what works?” <http://john-adams.co.uk/wp-content/uploads/2010/12/Management-of-the-risks-of-transport2.pdf>]

The model postulates that • everyone has a propensity to take risks – the setting of the thermostat; • this propensity varies from one individual to another; • this propensity is influenced by the potential rewards of risk taking; • perceptions of risk are influenced by experience of accident losses – one's own and others'; • individual risk-taking decisions represent a balancing act in which perceptions of risk are weighed against propensity to take risks; and • accident losses are, by definition, a consequence of taking risks (to take a risk is to do something that carries with it a probability of an adverse outcome); the more risks an individual takes, the greater, on average, will be both the rewards and the losses he or she incurs. Credit for discovering this phenomenon is shared between a University of Chicago economist, Sam Peltzman (1975) after whom it is labeled by economists as the “Peltzman effect”, and a Canadian psychologist Gerald Wilde who dubbed it “risk compensation” and later “risk homeostasis”. Wilde’s most recent elaboration of the effect can be found in Target Risk (Wilde 1994 & 2001) The risk compensation model might also be called cost-benefit analysis without the £ or $ signs. It describes a phenomenon know to the insurance industry as “moral hazard” - they have discovered that their customers are less careful about locking up if they have contents insurance. It is a conceptual model, not one into which you can plug numbers and from which you can extract decisions; the Rewards and Accidents boxes contain too many incommensurable variables; our reasons for taking risks are many and diverse, and vary from culture to culture and person to person. Most institutional risk managers work with a different model. “Reducing Risks, Protecting People” is the mantra of Britain’s Health and Safety Executive, the country’s foremost risk manager. It is also the title of the publication in which it explains its decision making process (HSE 2001). In terms of Figure 6 this process is confined to the bottom loop. It **exemplifies the thought processes of most institutional risk managers, including those working on the management of transport risks**. Outside the offices of investment banks and hedge funds most institutional risk managers have only a bottom loop. Often their job specification precludes contemplation of the rewards of risk taking. Their job is to prevent accidents. The rewards loop is someone else’s business – perhaps the marketing department. But road users, whether pedestrians, cyclists or motorists have top loops. While trying to avoid accidents they are also in pursuit of the rewards of risk. These can range from getting from A to B on time, to the adrenaline rush of the boy racer or making contact with the person calling or texting one’s mobile phone. The model proposes that safety interventions that do not reduce the setting of the thermostat (propensity to take risks) will be offset by behavior that seeks to restore the balance of risk. Antilock braking systems provide a good example. When introduced, their superiority persuaded many insurance companies to offer discounts for cars with antilock brakes. Most of these discounts have now been withdrawn. The ABS cars were not having fewer accidents, they were having different accidents. Or perhaps they were having fewer accidents, but no fewer fatal accidents; the evidence from various studies is less than conclusive – leaving antilock brakes still in the disputed virtual risk category of Figure 5. The opening sentences of the Executive Summary of a recent US Department of Transport study on the long-term effect of ABS in passenger cars and LTVs states: Antilock brake systems (ABS) have close to a zero net effect on fatal crash involvements. Runoff- road crashes significantly increase, offset by significant reductions in collisions with pedestrians and collisions with other vehicles on wet roads. But ABS is quite effective in nonfatal crashes, reducing the overall crash-involvement rate by 6 percent in passenger cars and by 8 percent in LTVs (light trucks – including pickup trucks and SUVs – and vans) (NHTSA 2009) The report notes that early studies of the initial effectiveness of ABS produced results that were “counterintuitive”: “The overall effect of ABS on fatal crash involvements was close to zero. Vehicles with four-wheel ABS had significantly higher rates of fatal run-off-road crashes than vehicles without ABS. In fact, the overall effect netted out to zero only because this increase was offset by a reduction in collisions with other vehicles on wet roads. These fairly strong statistical results did not square with intuition. The behavior of ABS on the test track did not provide any obvious reason that run-off-road crashes should increase; if anything, they suggested there ought to be a benefit.” In listing hypotheses to explain these perverse findings it is clear that the NHTSA’s intuition was not informed by the risk compensation hypothesis. Still puzzled by their statistical findings, and seeking reassurance that antilock brakes are an effective safety measure, the report announces a 2008-2012 evaluation plan (Allen et al 2008) that will seek to answer the following questions: • What is the overall effect of ABS on nonfatal crashes? • Even if the net effect of ABS on fatal crashes is close to zero, does ABS prevent enough nonfatal injuries and property damage to endorse ABS technology for its safety benefits? (p 16) It is sometimes argued that a risk compensation effect should only be found in cases where there is a clearly perceptible change in a vehicle’s performance. It might help, it is accepted by some, to explain the statistical outcome associated with antilock brakes, but not with seatbelts; i.e. its effect should be confined to risks falling in the directly perceptible circle of the Venn diagram in Figure 5. But most people will admit to feeling safer when belted or, if habitual wearers of seatbelts, to feeling exposed and vulnerable without it. This feeling is surely amplified by highly publicized (and grossly exaggerated) claims for their effectiveness.

### Turn – Safety /Traffic

#### Risk Compensation turns the case – decreased traffic regulation reduces congestion and improves safety

**Adams ’10** [John Adams, Emeritus Professor of Geography at University College London, fellow at Goodenough college, “Managing transport risks: what works?” <http://john-adams.co.uk/wp-content/uploads/2010/12/Management-of-the-risks-of-transport2.pdf>]

Most transport risks are likely to remain in the contested virtual risk circle of Figure 5. Many will doubtless continue to insist that they know what works. However the United Nations Decade of Action for Road Safety and the Make Roads Safe campaign referred to at the beginning of this essay would appear doomed to disappointment in the developing countries on which their efforts are focused. Wherever one looks one finds the tendency illustrated by Figures 1, 2 and 3 repeated. As the number of cars in a country increases the death rate per car decreases. In countries in the early stages of motorization each vehicle is incredibly lethal. Poor countries with a small number of modern cars, with a hundred years of safety technology built into them, are achieving kill-rates per vehicle as high or higher than those at the time of Model-Ts. This phenomenon has become known as Smeed’s Law, after Reuben Smeed who established the relationship over 50 years ago (Adams 1985, 1987). The confidence of some institutional transport safety managers that they “know what works” is undermined all round the world by the behavior of billions of individual risk managers who react to the impositions of the official risk managers, but also to the behavior of everyone else on the road. It is known that seatbelts provide significant protection in crashes, that helmets reduce injury caused by a knock on the head, that antilock brakes are superior brakes, that alcohol increases the likelihood of accidents, and speed their severity. But whenever safety measures attempting to put this knowledge to effective use are imposed from on high by institutional risk managers the result is at best disappointing. So what did cause the declining death rates described by the Smeed Law? Here we must speculate; the myriad interactions involved in the dance of the risk thermostats defy capture by any known computer. If one accepts Figure 6 as a plausible description of the process of risk management, one looks to changes in the setting of the thermostat for an explanation. As we get richer we become more risk averse. Car ownership correlates strongly and positively with income. As nations become richer they can afford, and demand, higher levels of safety and security. The setting of the collective thermostat is turned down. Reference was made above to the risks experienced in Victorian (or Chinese) coalmines. In poor countries life is cheaper and safety standards of all sorts are lower; life expectancy at birth is much lower and road accident rates much higher. In the most affluent countries of the world there is a trend toward increasing institutional risk aversion and growth in the numbers of institutional risk managers. Their job is to reduce accidents, and then get them lower still. For them, one accident is one too many. As noted above their risk thermostats have no top loop. But despite the increase in the activity of institutional risk managers it is often difficult to discern the effect of their work. As in the case of “The Scandinavian Myth” discussed above their growing activity appears to be symptomatic of increasing societal risk aversion rather than the cause of a decrease in accidents. Growing concern for the safety of children on the road might serve as another indicator of an increase in societal risk aversion in affluent countries, and an explanation for a significant part of the plummeting death rate illustrated by Figures 1 and 2. Today in Britain, per 100,000 children, the road accident death rate is less than a quarter of what it was in 1922 when there was hardly any motorized traffic and the country had a nation-wide 20 mph speed limit. This is not because the streets have become safer for children to play in; there is now much more metal in motion. It is because few children are allowed out on their own anymore. In 1971 80% of seven and eight year old children got to school unaccompanied by an adult. By 1990 this had dropped to 9% (Hillman et al 1990), and by 2010 it had become a child protection issue.1 The decrease in child road accidents appears to be overwhelmingly attributable to a decrease in exposure, and the decrease in exposure attributable not to institutional edict but to a growing fear on the part of parents of the threat posed to their children by traffic. At present the two countries with the best road safety records in the world are pursuing diametrically opposed philosophies of road safety. The Swedish “Vision Zero” policy assigns ultimate responsibility for road safety to the institutional risk manager in the form of the state. The responsibility of users of the system is to obey the rules. It asserts that the rules for the system are that: 1. the designers of the system are always ultimately responsible for the design, operation and use of the road transport system and thereby responsible for the level of safety within the entire system 2. road users are responsible for following the rules for using the road transport system set by the system designers (e.g., wearing seat belts; obeying speed limits) 3. if road users fail to obey these rules due to lack of knowledge, acceptance or ability, or if injuries occur, the system designers are required to take necessary further steps to counteract people being killed or seriously injured. (Hill J 2008) In the Netherlands, a country with an even (slightly) better road safety record, In the Netherlands, a country with an even (slightly) better road safety record, there is a growing enthusiasm for “shared space”. This is an intriguing idea pioneered by the late Hans Monderman, a highway engineer in Friesland. He removed almost all the traffic lights, pedestrian barriers, stop signs and other road markings that had been assumed to be essential for the safe movement of traffic. For traditional highway engineers his idea was anathema. Since the advent of the car they have planned on the assumption that car drivers are selfish, stupid, but obedient automatons who had to be protected from their own stupidity, and that pedestrians and cyclists were vulnerable, stupid, obedient automatons who had to be protected from cars – and their own stupidity. Hence the ideal street was one in which the selfish-stupid were completely segregated from the vulnerable-stupid, as on the American freeway or European motorway where pedestrians and cyclists and pedestrians are forbidden. Where segregation was not possible, in residential suburbs and older urban areas, their compromise solution was the ugly jumble of electronic signals, stop signs, barriers and road markings that now characterize most urban environments. Monderman observed those using the streets for which he was responsible and concluded that they were not stupid, but nor did they obey all the rules and barriers that assumed that they were, and nor, on the whole, did they behave selfishly. Pedestrians, he noticed, were nature’s Pythagoreans – always preferring the hypotenuse to the other two sides of the triangle. Given half a chance they did not march to the designated crossing point and cross at right angles to the traffic; if they spotted a gap in the traffic they opted for the diagonal route of least effort. And motorists did not selfishly insist on their right of way at the cost of mowing down lots of pedestrians. Monderman decided that those for whom he was planning were vigilant, responsive and responsible. He deliberately injected uncertainty into the street environment about who had the right of way. The results were transformative. Traditional highway engineers have never been concerned with aesthetics. Their job was to move traffic safely and efficiently. They dealt not with people but PCUs (passenger car units). The removal of the signals, signs and barriers that were the tools of their trade not only greatly improved the appearance of the streetscape but, by elevating the status of the pedestrian and cyclist relative to that of the motorist, made them more convivial as well. Claes Tingvall, who is credited with being the architect of Sweden’s Vision Zero, said in an interview “Vision Zero … is a shift in philosophy. Normal traffic policy is a balancing act between mobility benefits and safety problems. The Vision Zero policy refuses to use human life and health as part of that balancing act; they are non negotiable. … Part of the Vision Zero strategy is to improve the demand for safety.“ (Tingvall undated)

### Turn – Congestion

#### Increased regulation results in more accidents – turns congestion

**Casselman ’07** [Anne Casselman, science Journalist for discover, scientific American, and National Geographic magazin <http://discovermagazine.com/2007/may/urban-unplanning>]

After years of watching engineers model traffic flow with advanced physics to alleviate jams, a team of urban planners called Shared Space have adopted a simple solution based on a zoological concept known as the risk compensation effect. Basically, it means that animals tend to adjust their behavior to compensate for perceived risk. Applied to traffic, the idea is that people will drive more cautiously if they believe they are in a dangerous environment. The effect may explain why taxi drivers with antilock brakes drive faster or why wearers of bicycle helmets get struck down more. The Shared Space team believes that signs, signals, and the traffic rules they represent make the roads more dangerous because they lead us to believe we are safe. “Conventional highway engineering operates on the dumb molecule theory of human behavior,” says John Adams, emeritus professor of geography at University College London and a Shared Space advocate. “And the human molecule is responsive to what it sees about it.” Today five American cities are trying the approach, and seven major pilot projects are in the works across Europe. The town of Drachten in the Netherlands has only 2 of its 18 traffic lights left. Since the program began in 2004, accident rates at the town’s main intersection have dropped to only one per year from a previous nine-year average of just over eight, congestion has fallen by 20 percent, and journey times have been reduced by 10 minutes. Stripping London’s busy High Street Kensington shopping area of some of its signage, lights, and pedestrian barriers reduced traffic-related casualties by 43 percent. After the English town of Seend went bare, it witnessed a 5 percent fall in average speed, and accidents dropped by a third. Shared Space’s success is about more than safety, Adams says. “I think that there is a dawning collective guilt about how we’ve allowed the car to wreck not just the physical environment but also the social environment.”

### Turn – Control

#### The plan’s form of control fails – traffic interventions incentivize worse driving

Hamilton-Baillie ’08 [Ben Hamilton Baillie, “toward shared space” http://www.hamilton-baillie.co.uk/\_files/\_publications/30-1.pdf

Achieving lower speeds does not require increasing regulatory controls, enforcement and conventional interventions such as traffic calming. On the contrary, removing the legal and state-defined controls appears to allow the much more powerful social behavioural constraints to come into play. The less the manifestations of ‘the highway’ are evident, the more drivers rely on their remarkable ability as humans to read situations and adapt to circumstances. As David Engwicht has pointed out traffic speeds are determined, above all else, by driven perceptions of human presence in the street, or what Engwicht calls the degree of ‘‘psychological retreat’’ from streets. Reversing such a retreat requires street designers and users to grasp every opportunity to emphasise human presence and activity in the spaces between buildings. (Engwicht, 1993, 1999, 2006 The greatest cultural change necessary to restore spontaneous human activity in our public realm is a fresh understanding of the importance of accepting risk as an essential component of activity and interaction. The policy of segregation, so central to the segregation of urban traffic engineering, has assumed that risks should be minimised in the pursuit of safety. But as Professor John Adams and others have pointed out, risk is essential to human activity, and hence to the creation of successful public space (Adams, 1995). A recognition of ‘risk compensation effect’ prompts a fresh understanding of the adverse effects of measures such as traffic signals, signs, pedestrian guard rails and barriers on safety, and of their tendency to discourage informal physical activity. It may seem perverse to argue that well being can be improved through making spaces feel riskier, but that is the firm conclusion from both research, and from empirical studies (CABE, 2005, 2007). Interesting echoes of Professor Adams’ observations concerning the importance of risk can be found in research findings on the relationship between the attempts to design out risk from children’s play equipment, and the activities of children. The ‘Daisy Chain’ survey of 2002 by the Children’s Society and the Children’s Play Council noted that extensive investment in ‘safer playgrounds’ had achieved no measurable improvement in child health or safety. It had merely transferred the risk elsewhere, either reducing activity and thus increasing problems associated with sedentary lifestyles or shifting activity to more dangerous locations (Ball, 2007). Likewise the removal of ‘pedestrian safety barriers’ in the recent renovation of Kensington High Street (against the advice of safety engineers) appears to have significantly improved the accident figures for pedestrians (Swinburne, 2005). Increasing the apparent risks appear to encourage more engagements of both drivers and pedestrians with their surroundings, causing adaptions is the behaviour of both. Levels of pedestrian activity in Kensington High Street have also significantly increased. Breaking down the conventional divide between engineers and the design professions requires decisive changes in the organisational structure of local and national government. In addition, a fresh appreciation of the value of risk and the nature of safety means that standard processes, such as street adoption standards and safety auditing, need fundamental rethinking. Health and wellbeing are so closely and intricately linked to every aspect of our lives, that the ‘single-issue’ method of evaluating public space is no longer appropriate. Transport assessments, safety audits, environmental and aesthetic considerations cannot be isolated from each other or from health assessments; they are all critical to patterns of physical and social activity.

### Risk Comp True

Practically, as suggested by response generalization theory, the present results indicate that it may be necessary to change the focus of driving interventions from taking a piecemeal approach to impact multiple driving behaviors to a comprehensive approach to influence a single target (speeding) anchoring a response class of aggressive driving. This knowledge could increase the practicality, cost effectiveness, and social validity of driver education programs and state-sanctioned remedial driving classes for drivers convicted of traffic violations. Specifically, results suggest that if one can increase the proportion of times a driver follows the speed limit, they may also maintain a safer following distance, increase the amount of time spent on-task, and as a result reduce the probability of traffic conflict. It thus becomes noteworthy that speeding was predicted by the Type A personality variable, and therefore these drivers may be worthy of special consideration for early intervention. In Conclusion The present research provides the first objective evidence for the relationship of at-risk driving behaviors including vehicle speed, vehicle following distance, and off-task behavior into a response class of behaviors presumed to increase a driver’s risk for a vehicle crash. This provides evidence for response generalization theory. It was also demonstrated that a single behavior, turn-signal use, not included in the response class was used to compensate for increased crash risk among younger drivers. This provides evidence for risk compensation theory. Both findings were obtained without the confounds associated with assessing driving behavior via self-report, archival data, and avoided subject reactivity to the presence of an invehicle observer. Results also suggest that younger drivers and those who report exhibiting characteristics of the Type A personality may be at greatest risk for a vehicle crash. Finally, it is claimed that this information may be used to design more effective driving safety interventions, and target them to populations of drivers particularly at risk.