### Observation 1 is the Productive Power

#### Economic growth is stagnating in the status quo – we lack productivity

Horowitz 9/27 (Daniel Horowitz, Deputy Political Director at The Madison Project, Government Relations at Federation for Immigration Reform, University of Maryland, 9/27/12, “Obama’s ‘Recovery’ is Worse Than Recession”, <http://www.redstate.com/2012/09/27/obamas-recovery-is-worse-than-recession/> //Stransky)

GDP growth for Q2 of this year has been revised down to 1.3

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owns as a result of his intervention into every sector of the economy.

#### Alleviating congestion is key to productive power – the plan solves urbanization, regulation, and state budgets

Keeling\* and Mooney\*\* 11 (\*Dr. Mary Keeling is a Manager of the IBM Institute for Business Value Center for Economic Analysis and has been with the Center since it was founded in 2007. The Center’s work focuses on publishing and presenting research and developing recommendations on a wide range of economic issues relating to the growth and development of relevance for the public and private sectors. Mary joined IBM with over a decade of experience in the private sector and academia, including lecturer in economics at the University of Limerick and at Trinity College Dublin, as well as an economist in Ireland’s largest stock broking firm, Davy Stockbrokers. She has coordinated and participated in a number of research projects for public and semi-state bodies, such as the European Commission and Ireland’s National Economic Development Authority & Advisory Board (Forfas) and is a Council Member of the Irish Economics Association. She holds a first-class honors degree in Economics and Anthropology and an M.A. in Economics and Finance from NUI Maynooth and was awarded a Ph.D. by Trinity College Dublin in 1998. \*\*Gerard M. Mooney is currently General Manager, Global Smarter Cities. His team is responsible for delivering the set of initiatives that now form the center of IBM’s successful Smarter Planet offerings and that are playing a leading role in the transformation and modernization of governments and cities around the world in core functions like Intelligent Transportation, Public Safety, Advanced Water Management, Smart Grids and Green Buildings, as well as traditional government services. Since joining IBM in 2000, Gerry has held a series of increasingly responsible positions in venture capital, strategy, technology, operations and sales. Most recently, he was General Manager, Global Government and Education and, prior to that, Gerry was IBM’s Vice President, Corporate Strategy with worldwide responsibility for IBM’s Emerging Business Opportunities program. He has also had responsibility for IBM’s Venture Capital organization. Gerry serves as a member of the Board of Directors of the Intelligent Transportation Society of America (ITS America). He holds an MBA from Yale University, an MS in Accounting from Georgetown University and a BA in Philosophy from Mount Saint Mary’s College. October 2011, “Transportation and economic development: Why smarter transport is good for jobs and growth”, <http://public.dhe.ibm.com/common/ssi/ecm/en/gbe03441usen/GBE03441USEN.PDF>)

High unemployment, languid economic growth and growing urbanization make transport’s role in driving growth

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the waste of nearly 1.9 billion gallons of fuel each year.

#### Congestion prevents economic growth—two reasons—

#### A) Jobs

Weisbrod and Fitzroy 11 (Glen Weisbrod has served Chair of the National Academies' TRB Committee on Transportation and Economic Development, and he previously served on the Board of Directors of the Council for Urban Economic Development. Mr. Weisbrod was also formerly Sr. Vice President of Cambridge Systematics, Inc. and Director of the Boston office of HBRS and Hagler Bailly Consulting. The author of over 30 published articles, he holds a MS in Engineering and MCP in Planning from M.I.T., and BA in Economics from Brandeis University. Stephen Fitzroy has over 30 years of experience in providing economic consulting services and program management for private and public sector clientèle. His areas of expertise include economic analysis applications for transportation planning, long range forecasting, housing, land use, and economic development. Currently Dr. Fitzroy chairs the Transportation Research Board's (TRB) Joint Subcommittee on the Economics of Pricing, and serves on the Transportation Economics, Congestion Pricing and Environmental Justice in Transportation committees, .“Traffic Congestion Effects on Supply Chains: Accounting for Behavioral Elements in Planning and Economic Impact Models,” 8/29/11 http://cdn.intechopen.com/pdfs/18515/InTech-Traffic\_congestion\_effects\_on\_supply\_chains\_accounting\_for\_behavioral\_elements\_in\_planning\_and\_economic\_impact\_models.pdf )

Site location and expansion decisions typically shift as products, markets, technologies and input

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, and where they may best serve growing or emerging markets for their products

#### B) Fragmentation

Staley 07 (Sam, economic development policy analyst for the New York Times, November 25, 2007, “A Congested Economy”, http://www.nytimes.com/2007/11/25/opinion/nyregionopinions/25CIstaley.html?pagewanted=all)

But if congestion continues, eventually it will eat away at economic productivity in the

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a congestion hit worth $1.3 billion in increased operating costs.

#### **Economic collapse causes global conflict**

Friedberg and Schoenfeld, ‘8 [Aaron, Prof. Politics. And IR @ Princeton’s Woodrow Wilson School and Visiting Scholar @ Witherspoon Institute, and Gabriel, Senior Editor of Commentary and Wall Street Journal, “The Dangers of a Diminished America”, 10-28, http://online.wsj.com/article/SB122455074012352571.html]

Then there are the dolorous consequences of a potential collapse of the world's financial architecture

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of these countries seek to divert attention from internal travails with external adventures.

#### Statistics show economic decline increases the likelihood of war

Royal 10 (Jedediah, Director of Cooperative Threat Reduction – U.S. Department of Defense, “Economic Integration, Economic Signaling and the Problem of Economic Crises”, Economics of War and Peace: Economic, Legal and Political Perspectives, Ed. Goldsmith and Brauer, p. 213-215)

Less intuitive is how periods of economic decline may increase the likelihood of external conflict

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not featured prominently in the economic-security debate and deserves more attention.

#### **US competitiveness suppresses conflict escalation – it’s key to heg**

Baru 9 (Sanjaya, Visiting Professor at the Lee Kuan Yew School of Public Policy in Singapore Geopolitical Implications of the Current Global Financial Crisis, Strategic Analysis, Volume 33, Issue 2 March 2009 , pages 163 – 168)

The management of the economy, and of the treasury, has been a vital

AND

victory has always gone to the side with the greatest material resources.’7

#### Heg solves extinction

**Barnett**, **11** (Thomas, Former Senior Strategic Researcher and Professor @ Naval War College, Former Senior Strategic Researcher and Professor in the Warfare Analysis & Research Department, Center for Naval Warfare Studies, U.S. Naval War College American military geostrategist and Chief Analyst at Wikistrat., worked as the Assistant for Strategic Futures in the Office of Force Transformation in the Department of Defense, “The New Rules: Leadership Fatigue Puts U.S., and Globalization, at Crossroads,” March 7 <http://www.worldpoliticsreview.com/articles/8099/the-new-rules-leadership-fatigue-puts-u-s-and-globalization-at-crossroads>)

Events in Libya are a further reminder for Americans that we stand at a crossroads

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in all of its forms, deeply embedded in the geometry to come.

#### The US will never accept anything less than total domination – we will cling to heg

Mearsheimer 11 John J. Mearsheimer, the “R. Wendell Harrison Distinguished Service Professor of Political Science at the University of Chicago” Jan/Feb 2011 “Imperial By Design” http://mearsheimer.uchicago.edu/pdfs/A0059.pdf

The downward spiral the United States has taken was anything but inevitable. Washington has

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would see the United States as a benign hegemon serving their own interests.

#### The plan solves current problems and leads to sustainable growth

Keeling\* and Mooney\*\* 11 (\*Dr. Mary Keeling is a Manager of the IBM Institute for Business Value Center for Economic Analysis and has been with the Center since it was founded in 2007. The Center’s work focuses on publishing and presenting research and developing recommendations on a wide range of economic issues relating to the growth and development of relevance for the public and private sectors. Mary joined IBM with over a decade of experience in the private sector and academia, including lecturer in economics at the University of Limerick and at Trinity College Dublin, as well as an economist in Ireland’s largest stock broking firm, Davy Stockbrokers. She has coordinated and participated in a number of research projects for public and semi-state bodies, such as the European Commission and Ireland’s National Economic Development Authority & Advisory Board (Forfas) and is a Council Member of the Irish Economics Association. She holds a first-class honors degree in Economics and Anthropology and an M.A. in Economics and Finance from NUI Maynooth and was awarded a Ph.D. by Trinity College Dublin in 1998. \*\*Gerard M. Mooney is currently General Manager, Global Smarter Cities. His team is responsible for delivering the set of initiatives that now form the center of IBM’s successful Smarter Planet offerings and that are playing a leading role in the transformation and modernization of governments and cities around the world in core functions like Intelligent Transportation, Public Safety, Advanced Water Management, Smart Grids and Green Buildings, as well as traditional government services. Since joining IBM in 2000, Gerry has held a series of increasingly responsible positions in venture capital, strategy, technology, operations and sales. Most recently, he was General Manager, Global Government and Education and, prior to that, Gerry was IBM’s Vice President, Corporate Strategy with worldwide responsibility for IBM’s Emerging Business Opportunities program. He has also had responsibility for IBM’s Venture Capital organization. Gerry serves as a member of the Board of Directors of the Intelligent Transportation Society of America (ITS America). He holds an MBA from Yale University, an MS in Accounting from Georgetown University and a BA in Philosophy from Mount Saint Mary’s College. October 2011, “Transportation and economic development: Why smarter transport is good for jobs and growth”, <http://public.dhe.ibm.com/common/ssi/ecm/en/gbe03441usen/GBE03441USEN.PDF>)

The ITS industry is helping build smarter transport systems that enable data gathering and analysis

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and 2008 when overall patent applications in the United States were static. 31

#### And it’s key to an effective market – that revitalizes productive power

Keeling\* and Mooney\*\* 11 (\*Dr. Mary Keeling is a Manager of the IBM Institute for Business Value Center for Economic Analysis and has been with the Center since it was founded in 2007. The Center’s work focuses on publishing and presenting research and developing recommendations on a wide range of economic issues relating to the growth and development of relevance for the public and private sectors. Mary joined IBM with over a decade of experience in the private sector and academia, including lecturer in economics at the University of Limerick and at Trinity College Dublin, as well as an economist in Ireland’s largest stock broking firm, Davy Stockbrokers. She has coordinated and participated in a number of research projects for public and semi-state bodies, such as the European Commission and Ireland’s National Economic Development Authority & Advisory Board (Forfas) and is a Council Member of the Irish Economics Association. She holds a first-class honors degree in Economics and Anthropology and an M.A. in Economics and Finance from NUI Maynooth and was awarded a Ph.D. by Trinity College Dublin in 1998. \*\*Gerard M. Mooney is currently General Manager, Global Smarter Cities. His team is responsible for delivering the set of initiatives that now form the center of IBM’s successful Smarter Planet offerings and that are playing a leading role in the transformation and modernization of governments and cities around the world in core functions like Intelligent Transportation, Public Safety, Advanced Water Management, Smart Grids and Green Buildings, as well as traditional government services. Since joining IBM in 2000, Gerry has held a series of increasingly responsible positions in venture capital, strategy, technology, operations and sales. Most recently, he was General Manager, Global Government and Education and, prior to that, Gerry was IBM’s Vice President, Corporate Strategy with worldwide responsibility for IBM’s Emerging Business Opportunities program. He has also had responsibility for IBM’s Venture Capital organization. Gerry serves as a member of the Board of Directors of the Intelligent Transportation Society of America (ITS America). He holds an MBA from Yale University, an MS in Accounting from Georgetown University and a BA in Philosophy from Mount Saint Mary’s College. October 2011, “Transportation and economic development: Why smarter transport is good for jobs and growth”, <http://public.dhe.ibm.com/common/ssi/ecm/en/gbe03441usen/GBE03441USEN.PDF>)

Transportation providers and agencies have a vast amount of information at their disposal from across

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well as by helping them be better prepared for responses to infrequent events.

### Observation 2 is Terrorism

#### Risk of a bioterrorism attack is high now—they have the tech and motive

Garrett 12 [Laurie, science writer for Newsday, Garrett won a Pulitzer, a Peabody and two Polk awards; in 2004, she joined the Council on Foreign Relations as Senior Fellow for Global Health. She is an expert on public health and the fascinating ways that health policy affects foreign policy and national security Foreign Policy, “Flu Season”, http://www.foreignpolicy.com/articles/2012/01/05/flu\_season?print=yes&hidecomments=yes&page=full]

Within government circles around the world, the announcement has highlighted a dilemma: How

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that the political world is completely unprepared for the synthetic-biology revolution.

#### Gene manipulation increases risk of bioweapons

**MSNBC 11** [News agency, 12/7/11, “Clinton warns of bioweapon threat from gene tech”, <http://www.msnbc.msn.com/id/45584359/ns/technology_and_science-security/#.Tvo9riNWrKC>, Stransky]

GENEVA — New gene assembly technology that offers great benefits for scientific research could also

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nuclear weapons — saying it is too complicated to monitor every lab's activities.

#### Current transit systems will be overwhelmed during an attack—ITS is the only way to solve this evidence is comparative

Hinds 7 [Josh Hinds, former Graduate Research Assistant at Center for Transportation Research and Education Transportation Engineer at South Dakota Department of Transportation, 10-11-07, “The Emergency Transportation Operations within the Intelligent Transportation System,” Midwest Transportation Consortium Scholars Paper, <http://ctre.iastate.edu/mtc/papers/documents/hinds2007paper.pdf>]

The surface transportation system is vital to our nation's economy, defense, and quality

AND

travelers to the right route can benefit any emergency event. (5)

#### ITS leads to quick biohazard response—5 reasons

RITA 11 (U.S. Department of Transportation’s Research and innovative technology administration, RITA, 4/18/11, Final Report for the Application of Technology to Transportation Operations in Biohazard Situations)

1.4 Technology Application Plan The Technology Application Plan assesses the activities identified by

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management (e.g., alternate signal control, signal preemption technology)

#### The plan independently solves detection—it’s the lynchpin of containment efforts

Pincus 11 [September 2011, Marcia Pincus is from the ITS Joint Program Office Research and Innovative Technology Administration U.S. Department of Transportation Department of Transportation, Final Report, “Intelligent Transportation Systems Benefits, Costs, Deployment, and Lessons Learned Desk Reference: 2011 Update”,http://www.benefitcost.its.dot.gov/its/benecost.nsf/files/BCLLDepl2011Update/$File/Ben\_Cost\_Less\_Depl\_2011%20Update.pdf]

A variety of sensors deployed on the transportation infrastructure can help provide an early warning

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techniques such as reversible flow lanes are often used for evacuation during emergencies.

#### Bioterror is the most severe existential risk—magnitude outweighs

Matheny 07 **(**Jason Matheny research associate with the Future of Humanity Institute at Oxford University where his work focuses on technology forecasting and risk assessment – particularly of global catastrophic risks and existential risks, he is a Sommer Scholar and PhD candidate in Applied Economics at Johns Hopkins University, “Reducing the Risk of Human Extinction” <http://physics>.harvard.edu/~wilson/pmpmta/Mahoney\_extinction.pdf)

More recent predictions of human extinction are little more optimistic. In their catalogs of

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to respond to pandemics (Lam, Franco, & Shuler, 2006).

#### Bio-weapons use goes global, triggering nuclear WWIII

Alexander 7 **(**Timothy, Former Scottish Editor of Burke’s Peerage, B.Sc. in Pol. Sc. & History; M.A. in European Studies, October 22nd, “War On Iran = You Die from Biowar”, Op Ed News, http://www.opednews.com/articles/genera\_lord\_sti\_071020\_war\_on\_iran\_\_3d\_you\_di.htm)

We have been conditioned, by seeing films of mushroom clouds and images of nuclear

AND

that they are totally blind to the profound risk to their own lives.

### Observation 3 is Computational Science

#### Computational science lacks major advances in the status quo – integration into infrastructure is key to creating sustainable research

National Academies 12 (National Academy of Science, The National Academy of Sciences (NAS) is a non-profit organization in the United States. Members serve pro bono as "advisers to the nation on science, engineering, and medicine". 6/29/12, “Computing Advances Vital to Sustainability Efforts; New Report Recommends Problem-Focused, Iterative Approach to Research”, <http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=13415>)

Innovation in computing will be essential to finding real-world solutions to sustainability challenges

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computer science, the research community is well-positioned to make progress.

#### ITS key to computational science – it creates a test bed for CTS technology

**Winter et al 10** (Stephan Winter: The University of Melbourne, Australia, Monika Sester: Leibniz University Hannover, Germany, Ouri Wolfson: University of Illinois, Chicago, USA, Glenn Geers: National ICT Australia, Sydney, Australia, ACM SIGMOD Record, Volume 39 Issue 3, September 2010 , Pages 27-32, http://www.cs.uic.edu/~boxu/mp2p/39-135-1-SM.pdf)

In the near future, vehicles, travelers, and the transportation infrastructure will collectively

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intelligent. So “computational transportation science” seems to say it all.

#### This has a “network” spillover effect that causes widespread tech production

Hill 9 (Scott Belcher, CEO and President, Intelligent Transportation Society of America, The Intelligent Transportation Society of America (ITS America) represents several hundred member organizations including public agencies, private industry leaders, and academic institutions involved in the research, development, and deployment of intelligent transportation systems that improve safety, increase mobility, and sustain the environment. 12/04/09, “Congress: Invest in Intelligent Transportation Systems to create jobs”, http://thehill.com/blogs/congress-blog/technology/70623-congress-invest-in-intelligent-transportation-systems-to-create-jobs)

The future of ITS and its positive impact on our national economy are significant.

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savings, economy-wide productivity, and an improved quality of life.

#### That’s key to biotech innovation

Strayer 4(Michael Strayer, Acting Director of Mathematical, Informantion, and Computational Science Division of the US Department of Energy, September 19, 2004, <http://science.energy.gov/~/media/ascr/pdf/program-documents/archive/Scales_report_vol2.pdf>)

Progress in biology depends on the emergence of a new quantitative, predictive, and

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to the scientific goals that can be accomplished in the future in biology.

#### **Biotech innovation prevents deforestation and pesticide use – it’s key to sustainable ag**

McGloughlin 99 (Martina, Director of International Biotechnology Program at UC

International Biotechnology Research Expert & Spokesperson at U.S. Department of State, 1999, “Ten reasons why biotechnology will be important to the developing world”, <http://www.agbioforum.org/v2n34/v2n34a04-mcgloughlin.htm>)

Biotechnology companies, national and international organizations, including the Consultative Group on International Agricultural

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solutions are readily available and cheaper than before the introduction of biotechnology crops?

#### Pesticides cause extinction

Tilman et al 5 (David, Regent's Professor and McKnight Presidential Chair in Ecology at the University of Minnesota, Joseph Fargione, Brian Wolff, Carla D'Antonio, Andrew Dobson, Robert Howarth, David Schindler, William H. Schlesinger, Daniel Simberloff, Deborah Swackhamer, “Self Extinction by Agriculture,” No Specific Date Given, http://www.truehealth.org/agnew05.html)

This forecast details the pesticides load upon our global environment - and hence in our

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cautioned by the authors, will be, first and foremost, our own

#### Sustainable ag is key to solve global war and extinction

Lugar 2k (Richard, a US Senator from Indiana, is Chairman of the Senate Foreign Relations Committee, and a member and former chairman of the Senate Agriculture Committee. “calls for a new green revolution to combat global warming and reduce world instability,” pg online @ <http://www.unep.org/OurPlanet/imgversn/143/lugar.html> Donnie)

In a world confronted by global terrorism, turmoil in the Middle East, burgeoning

AND

in the survival of billions of people and the health of our planet.

### Plan Text

#### Text: The United States federal government should substantially increase its Intelligent Transportation System infrastructure investment in the United States.

### Observation 4 is Solvency

#### Increasing federal funding solves – key to demonstration projects

Ezell 10 (Stephen Ezell is a Senior Analyst with the Information Technology and Innovation Foundation (ITIF), with a focus on innovation policy, science and technology policy, international competitiveness, and trade, manufacturing, and services issues, January 2010, “Executive Summary: Intelligent Transportation Systems”, <http://www.itif.org/files/2010-1-27-ITS_Leadership.pdf> )

This report examines the promise of ITS, identifies the global leaders in ITS and

AND

, and training for already deployed ITS at the state and regional levels.

#### Federal government is key—

#### A) It’s key to international leadership, coordination, and effective funding—a single agency is key

Ezell 10 (Stephen Ezell is a Senior Analyst with the Information Technology and Innovation Foundation (ITIF), with a focus on innovation policy, science and technology policy, international competitiveness, and trade, manufacturing, and services issues, January 2010, “Executive Summary: Intelligent Transportation Systems”, <http://www.itif.org/files/2010-1-27-ITS_Leadership.pdf> )

The degree of centralization in ITS decision-making authority may be the most important

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these countries to articulate clear and concise national ambitions and objectives towards ITS.

#### B) Management and jurisdiction

Ezell 10 (Stephen Ezell is a Senior Analyst with the Information Technology and Innovation Foundation (ITIF), with a focus on innovation policy, science and technology policy, international competitiveness, and trade, manufacturing, and services issues, January 2010, “Executive Summary: Intelligent Transportation Systems”, <http://www.itif.org/files/2010-1-27-ITS_Leadership.pdf> )

As discussed subsequently, the United States’ federated governance structure for surface transportation creates an

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best, and how, are the subjects to which this report now turns