

@TTI at @TxRailAdvocate SW #Rail Conf.



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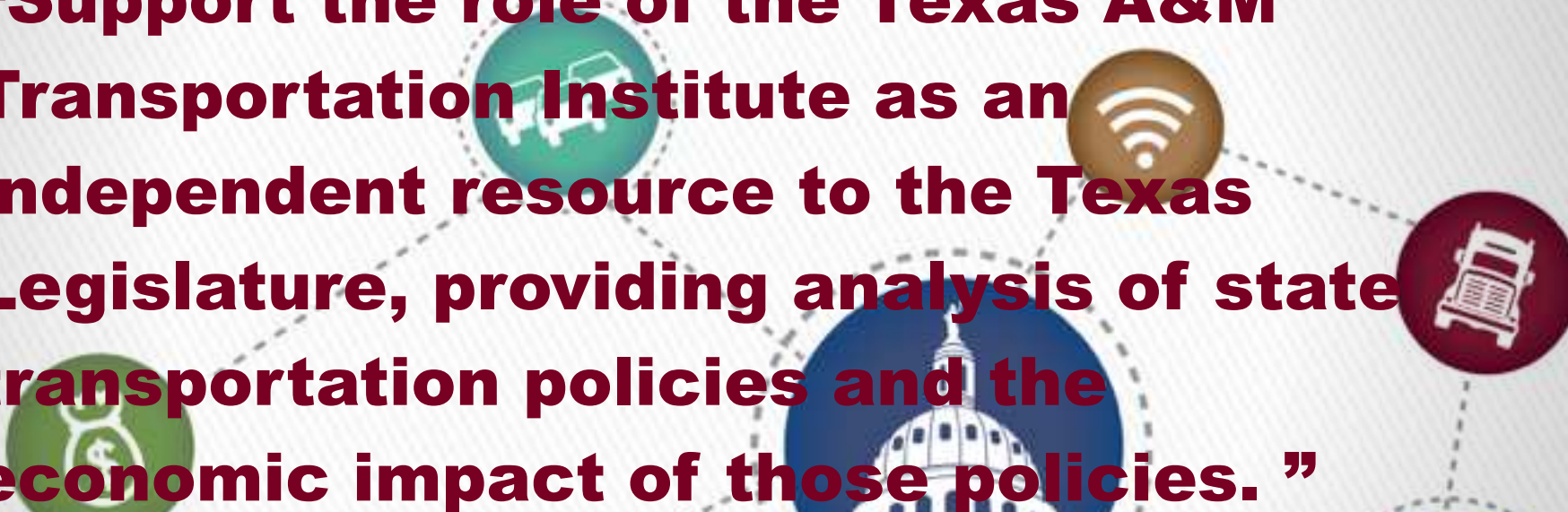
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Policy Research CENTER

“Support the role of the Texas A&M Transportation Institute as an independent resource to the Texas Legislature, providing analysis of state transportation policies and the economic impact of those policies.”

A decorative graphic consisting of several circular icons connected by dashed lines. The icons include: a green circle with a white car icon, a brown circle with a white Wi-Fi signal icon, a red circle with a white car icon, a blue circle with a white dome icon (representing the Texas State Capitol), a green circle with a white dollar sign icon, a grey circle with a white hash symbol icon, and a yellow circle with a white circular arrow icon.

-- Rider 5, p.III-228, General Appropriations Act 2016-2017

TTI at the Southwestern Rail Conference



Working with legislative leaders, TTI has identified the **transportation issues in these areas** which must be better understood to position the state in an optimal manner.



Finance



Freight



Congestion



Technology



Public Engagement



Transportation Data

Things we are NOT currently researching





Image source: Library of Congress



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 **HIF2 MUS2C**
MUSICAL CAR JUMP STARTER



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THIS MONUMENT HAS BEEN
ERECTED BY THE
GRAVITY RESEARCH FOUNDATION
ROGER W. BABSON FOUNDER

IT IS TO REMIND STUDENTS OF
THE BLESSINGS FORTHCOMING
WHEN A SEMI-INSULATOR IS
DISCOVERED IN ORDER TO HARNESS
GRAVITY AS A FREE POWER
AND REDUCE AIRPLANE ACCIDENTS

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Chat With PawCall

Play video-conferencing system for pets

Top of pet cams aren't very fair. You can see what your furry friend is up to, but they have to get in touch with you? PetChatz understands the four-legged camera already had two-way video chat and an app-controlled treat dispenser's innovation? The PawCall accessory, which lets Fido initiate the call. When a button is pressed, you'll get a request on your smartphone or computer to meow—or more likely one of those delicious hidden treats. The system is available now for \$380. The PawCall will be available in February for petchatz.com

PICTURES

Best of CES



13 / 40

A Bonjour alarm clock is displayed January 4, 2016. The voice-controlled, Internet-enabled alarm clock can be programmed to wake you up under a variety of user-set conditions and can alert you if your home security system detects an intruder. The \$200 clock from France should be available by Christmas season in 2016, a representative said. REUTERS/Steve Marcus



<http://motherboard.vice.com/read/> **this-rectal-thermometer-is-the-logical-conclusion-of-the-internet-of-things**



It Takes a Village... to Stop a Virus

With Kinsa, you can choose to join a Group.

By hooking into the health of a school or workplace group, for example, you can review general health levels, common symptoms, and any notes, questions or responses about illnesses that may be going around. This helps you know when a cough is just a cough, and when it's possible you've picked up strep.





Transforming transportation in Texas
 through research, collaboration
 and policy innovation.

TRANSPORTATION LEGISLATION

With Texas Legislature, Interim

TEXAS TRANSPORTATION POLL

1/3
 1/4
 1/10

How often would you use a self-driving car in your future?

Never
 Sometimes
 Often
 Always

Gas Tax Facts

Just the facts about Texas gas tax

Why Invest Public Funds in Private Freight Railroad Projects?

by the Texas A&M Transportation Institute's Policy Research Center

Public investment in freight railroads is a critical component of the state's economic development strategy. This report examines the benefits of public investment in freight railroads and provides recommendations for the state's investment strategy.

Is a self-driving car in your future?

50% YES
 50% NO

Study suggests Austin residents are evenly split on using self-driving cars

How likely would Austin area residents be to use a self-driving vehicle, which could be as Texas residents within several years? In a recent TTI study, 50 percent of those surveyed said yes to the idea, and 50 percent said no, each group offering a variety of reasons for their position. Those who said they would:

As federal officials update driverless car policy, TTI continues research for autonomous/connected vehicles

As discussion about the pros and cons of autonomous and connected vehicles grows, TTI is continuing its research on the benefits and challenges of these technologies. The TTI Transportation Policy Research Center is working to better understand the implications and options for decision-making that will influence...

A Freight Perspective on Transit Demand Management

Continuing growth across Texas has contributed to growing transportation demand and related congestion. Current strategies to manage demand like transit or transportation demand management (TDM) focus on commuters who are part of the morning and evening peak congestion period and not shippers and receivers who manage logistics to change how they get to work. Changes in activity, technology...

See past news items:

News



FIX CONGESTION

With Texas Legislature, Interim

Finance
 Freight
 Congestion
 Technology
 Public Engagement
 Transportation Data

Other Policy-Related Research at TTI

Roadway Safety
 Roadway Security

More



You are here: Home / Transportation Legislation / What Bills Passed & Didn't Pass

What Bills Passed & Didn't Pass

84th Regular Session Legislation

Finance

1. **SJR 5** Proposing a constitutional amendment dedicating certain revenue derived from the tax imposed on the sale of motor vehicles to the state highway fund.
2. **SJR 7** Proposing a constitutional amendment excepting certain appropriations for reducing state debt from the constitutional limitation on the rate of growth of appropriations.
3. **SJR 12** Proposing a constitutional amendment prescribing the purposes for which revenue from motor vehicle registration fees, certain motor vehicle-related taxes, and certain revenues received from the federal government may be used.
4. **SJR 15** Proposing a constitutional amendment prescribing the purposes for which revenue from motor vehicle registration fees, certain motor vehicle-related taxes, and certain revenues received from the federal government may be used.
5. **SJR 19** Proposing a constitutional amendment limiting appropriations from the economic stabilization fund to a total amount that the comptroller of public accounts estimates will not result at any time in a fund balance of less than a prescribed minimum amount, other than in an emergency if certain requirements are met.
6. **SJR 42** Proposing a constitutional amendment prescribing the purposes for which revenues from motor vehicle registration fees and taxes on motor fuels and lubricants may be used.
7. **SJR 48** Proposing a constitutional amendment authorizing the issuance of additional obligations to provide

84th Texas Legislature, Interim

Legislation by topic:

Finance

Tolls and Toll Agencies

Transportation Reinvestment Zones

Energy Impacted Roads

Governance, Jurisdiction, Management

Safety and Air Quality

Alternative Fuels, Emission Reduction

Bicycles & Pedestrians

Cell Phone Use/Texting while Driving

Disabilities

Driver Education

Driver Responsibility Program

DWI and Underage Drinking

Fines

Motorcycles

Occupant Protection

Red Lights, Cameras, and Traffic Signals

Transportation-Related Committees of the 84th Texas Legislature, Interim

Senate Committee on Transportation

Sen. Robert Nichols, Chair; Sen. Don Huffines, Vice Chair

Members: Sen. Andrew Elfin, Sen. Tony Frazee, Sen. Sylvia Garcia, Sen. Bob Hall, Sen. Kelly Hancock, Sen. Louie G. Holtzworth, Sen. Van Taylor

Home Page

Hearing 12/14, 2015 - Hearing

Interim Study Changes

Federal Funding: Review any new and anticipated revenue appropriated to the Texas Department of Transportation and make recommendations that address project prioritization and selection, effectiveness of staffing levels and project delivery methods.

Vehicle Inspection System: Evaluate the efficiency and effectiveness of the state's Vehicle Inspection Program. Make recommendations as to how to categorize or otherwise reduce the number of required inspections.

Regional Mobility Authorities: Review State Highway Fund grants and State or Regional Mobility Authorities (SRMA) and make recommendations if additional oversight provisions are needed to ensure the SRMA's expenditures are a valid and accountable use of State Highway Funds.

Passive Fund: Study the historical growth of the state's ports, harbors and harbors resulting from the Passive Fund and evaluate and make recommendations to ensure transportation infrastructure is adequate to accommodate increases in imports and exports.

Driver Responsibility Program: Evaluate the necessity of the Driver Responsibility Program and make recommendations for alternative methods of achieving the program objectives.

Overweight/Overweight Vehicle Regulations, Penalties and Fees: Review current state and federal regulations, penalties and fees related to excess and overweight vehicles and make recommendations to increase impact on the state's roadway and bridges.

Monitoring Change: Monitor the implementation of legislation adopted by the Senate Committee on Transportation during the 2015 session. Regularly review and make recommendations for any legislation needed to improve, enhance, or fully complete implementation. Specifically, monitor the following:

Progress of the Texas Department of Transportation's efforts to prepare a plan to eliminate toll roads.

Reopening various districts authority to open toll roads.

Timing for timing of any new tolls from the Texas Mobility Fund (TMF) and prioritizing future use of the TMF on toll projects and

The Sunset Advisory Commission's review of the Texas Department of Transportation.

House Committee on Transportation

Rep. Joseph Pickett, Chair; Rep. Alexander Martinez, Vice Chair

Members: Rep. Tami Ruskett, Rep. Steven Clark, Rep. Alex Fletcher, Rep. Thomas Hays, Rep. John L. McCall, Rep. Mark Stipanovich, Rep. Dan Wagener, Rep. Andrew S.

Mar. Rep. Chris Pabbe, Rep. Gary Phillips, Rep. Ron Simmons

Home Page

Interim Study Changes

Study the Texas Department of Transportation's role in responding to natural disasters, specifically reviewing existing law plans for major events and technology that can monitor resources and travel plans.

Examine the current framework for designating a project as a toll road. Consider ways to reduce or eliminate the role of toll roads in providing capital and general transportation funding resources approved by the legislature.

Review the state's statutory and regulatory requirements for design build contracts, including cost and quantity restrictions, and consider the effect of existing design restrictions.

Review the functions of all departments in the Texas Department of Transportation related to alternative modes of transportation and make recommendations to improve their efficiency.

Evaluate the effectiveness of existing transportation mechanisms authorized by the state, such as transportation enhancement zones, to determine their effectiveness and identify methods for local entities to utilize these funds to improve transportation.

Study the current regulatory requirements for ability reduction and assessment modifications that will increase delay times while protecting passengers and employees.

Review the areas currently designated as overweight or overweight penalties. Make recommendations to ensure that current measures are used to determine the amount, level of enforcement, and gross weight, allowable. Identify measures that may be taken to protect the quality of the roadway.

Examine innovative transportation technologies, such as autonomous vehicles, to reduce potential cost savings and ways in which they may reduce traffic congestion, promote safety, and increase economic productivity.

Monitor legislative oversight and monitoring of the agency and programs under the committee's jurisdiction and the implementation of relevant legislation passed by the both legislatures. In conducting this oversight, the committee should:

a. consider any relevant to state agencies to make them more responsive to Texas citizens and issues.

b. identify issues regarding the agency or the government that may be appropriate to investigate, approve, remedy, or otherwise;

c. determine whether an agency is operating in a transparent and efficient manner; and

d. identify opportunities to increase program and services while maintaining the mission of the agency and its programs.

Subcommittee on Long-Term Infrastructure Planning

Rep. Ron Simmons, Chair

Members: Rep. Tami Ruskett, Rep. Steven Clark, Rep. Thomas Hays, Rep. John L. McCall, Rep. Andrew S. Mar, Rep. Chris Pabbe

Home Page

Hearing 12/17, 2015 - Hearing - Review on 12/17 - Agenda (continued) - Technology Funding/Research/Systems / Other Issues 12/17 - Funding Update 12/17/2015

Funding Update: 12/17/2015 - 12/17/2015 - 12/17/2015 - 12/17/2015 - 12/17/2015 - 12/17/2015 - 12/17/2015 - 12/17/2015

Senate Select Committee on Transportation Planning SSB 20, Sec. 81

Sen. Robert Nichols, Chair

Members: Sen. Bob Hall, Sen. Don Huffines, Sen. Don Huffines, Sen. Don Huffines

TTI at the Southwestern Rail Conference



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- **Program Manager**
Associate Research Scientist

Jolanda Prozzi

- **Program Manager**
Research Scientist
- *Environment and Planning*

Allan Rutter

- **Division Head**
Research Scientist
- *Freight Mobility Division*

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Recent TTI Passenger Rail Research



- TTI has maintained a passenger rail-related research program for the past 20+ years.
- Today's presentation will cover two recent/on-going passenger rail studies:
 - Intercity Passenger Rail Service and Development Guide (NCRRP 03-01)
 - State-supported Passenger Rail Corridor Profiles for AASHTO SCORT

Intercity Passenger Rail Service and Development Guide (NCRRP 03-01)



- Research conducted for the National Academy of Science's Transportation Research Board
- TTI is lead research agency along with several other experts
- Guidebook describes process and best practices for development of intercity passenger rail programs/service expansion



Intercity Passenger Rail Service and Development Guide (NCRRP 03-01)



- Covers project and program development from vision to operations
- Describes existing intercity passenger rail environment, regulations, and past experiences
- Based on interviews with national stakeholders (Operators, State DOTs, Implementing agencies)
- Five Targeted Syntheses covering gap areas

Intercity Passenger Rail Service and Development Guide (NCRRP 03-01)

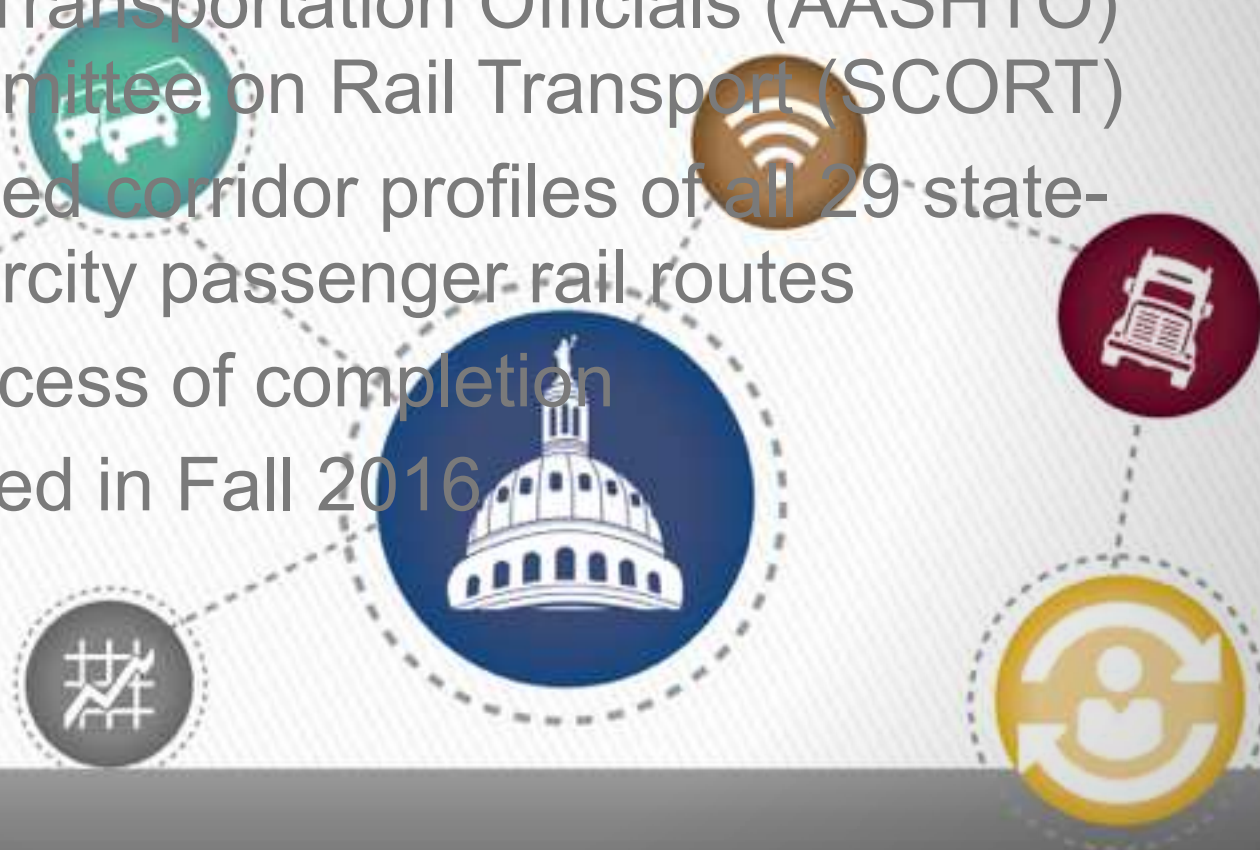


- New Research in Gap Areas:
 - Liability/Insurance Requirements for ICPR Service
 - PRIIA 209 Cost Formula Transparency
 - Robust ICPR Service Delivery
 - ICPR Performance Measurement/Quality Assurance Techniques
 - Role of the US Surface Transportation Board Regarding ICPR Service

State-supported Intercity Passenger Rail Corridor Profiles



- On-going project for the Assoc. of American State Highway and Transportation Officials (AASHTO) Standing Committee on Rail Transport (SCORT)
- Develop detailed corridor profiles of all 29 state-supported intercity passenger rail routes
- Multistage process of completion
- To be completed in Fall 2016



State-supported Intercity Passenger Rail Corridor Profiles



- Map of state-supported corridor routes



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Freight Railroad Research



- Center for Railway Research
- Policy Research Center
- Freight Mobility Division work



Center for Railway Research



- Conducts research in railroad infrastructure for public and private sponsors
- Works with AAR's Transportation Technology Center in Pueblo, CO
- Member of UT RGV University Transportation Center for Railway Safety



Center for Railway Research



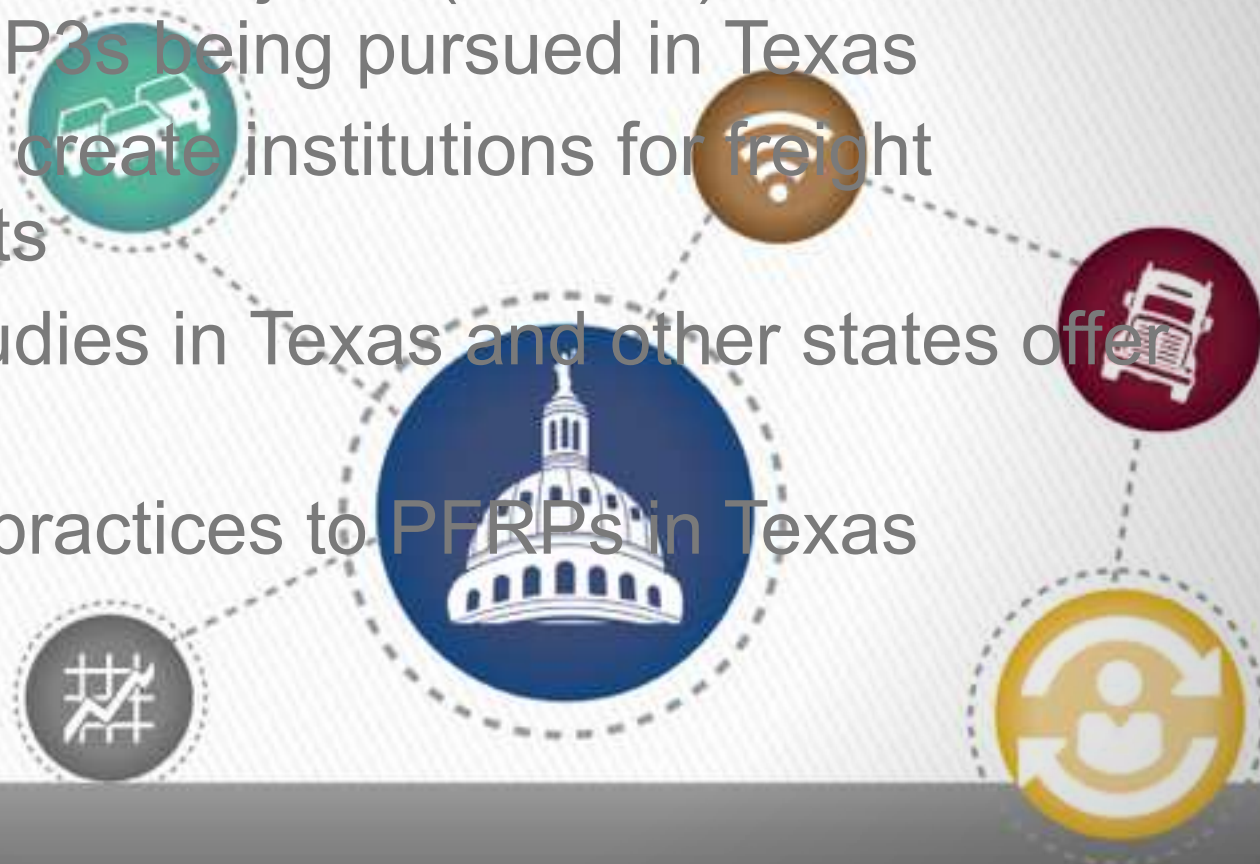
- Example Project: Live Load Effects of Railroads On Retaining Walls & Temporary Shoring for TxDOT
- Instrumented structural steel panel along railroad in College Station, measuring lateral movements as freight trains pass
- Information will be used to design retaining walls for rail lines along highway projects



Policy Research Center Project: Considerations for Public Freight Rail Projects in Texas



- Public Freight Rail Projects (PFRPs) differ from other highway P3s being pursued in Texas
- Texas statutes create institutions for freight railroad projects
- PFRP case studies in Texas and other states offer instruction
- Applying best practices to PFRPs in Texas



Policy Research Center Project: Considerations for Public Freight Rail Projects in Texas



- Texas should enter into a PFRP only to advance a clear public interest.
- As Texas population and economy grows, so will rail traffic, and with it congestion and community impacts
- Texas may consider intervening through a PFRP when:
 - public interest does not match railroad business objectives
 - railroads may be unable to reach an agreement to resolve rail congestion that affects the public
 - railroads may not have access to capital to address public needs



Freight Mobility Division Railroad Research



- Research on Rural Rail Transportation Districts authorized by Texas Legislature
- Highway-rail grade crossing safety
 - Work for FHWA to support highway-rail grade crossing reports and State Action Plans
 - Help develop grade crossing traffic signal preemption guidelines
 - Host biennial National Highway-Rail Grade Crossing Safety Training Conference



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Freight Trends to Watch

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Freight Trends to Watch

- Global trade factors/trends
- Socio-demographic trends
- Environmental trends
- Technology trends



Global Trade Factors/Trends



Global Trade Factors/Trends

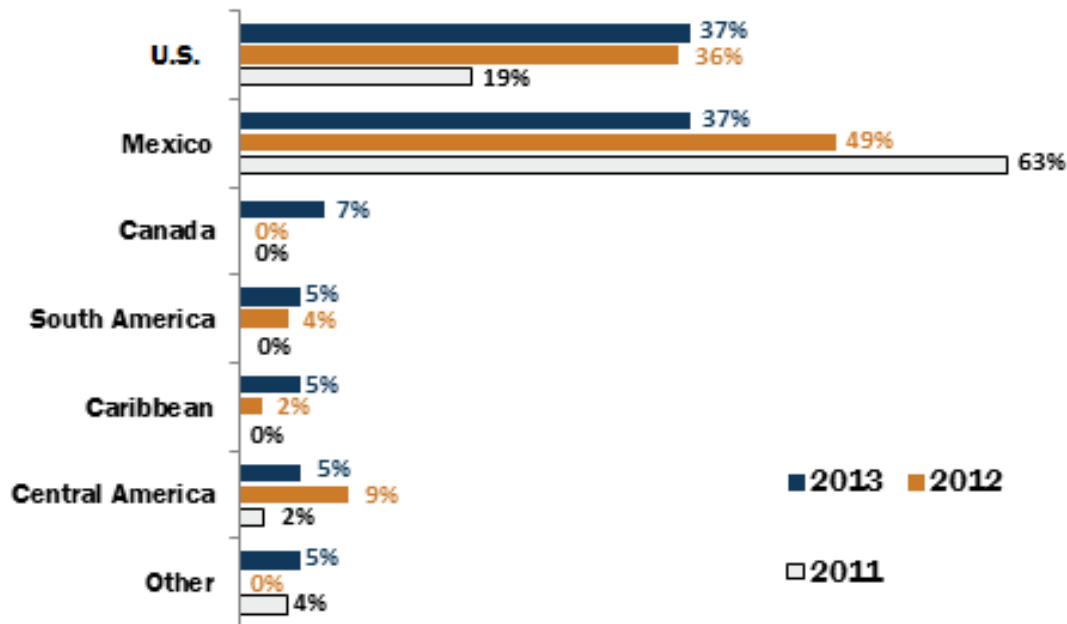
- Trans-Pacific Partnership (TPP)
- Transatlantic Trade and Investment Partnership (T-TIP)
- Normalization of trade relations with Cuba



Nearsourcing/Insourcing



Percent naming region as most attractive nearsourcing location



Biggest advantages expected from a nearsourcing decision

Single Window

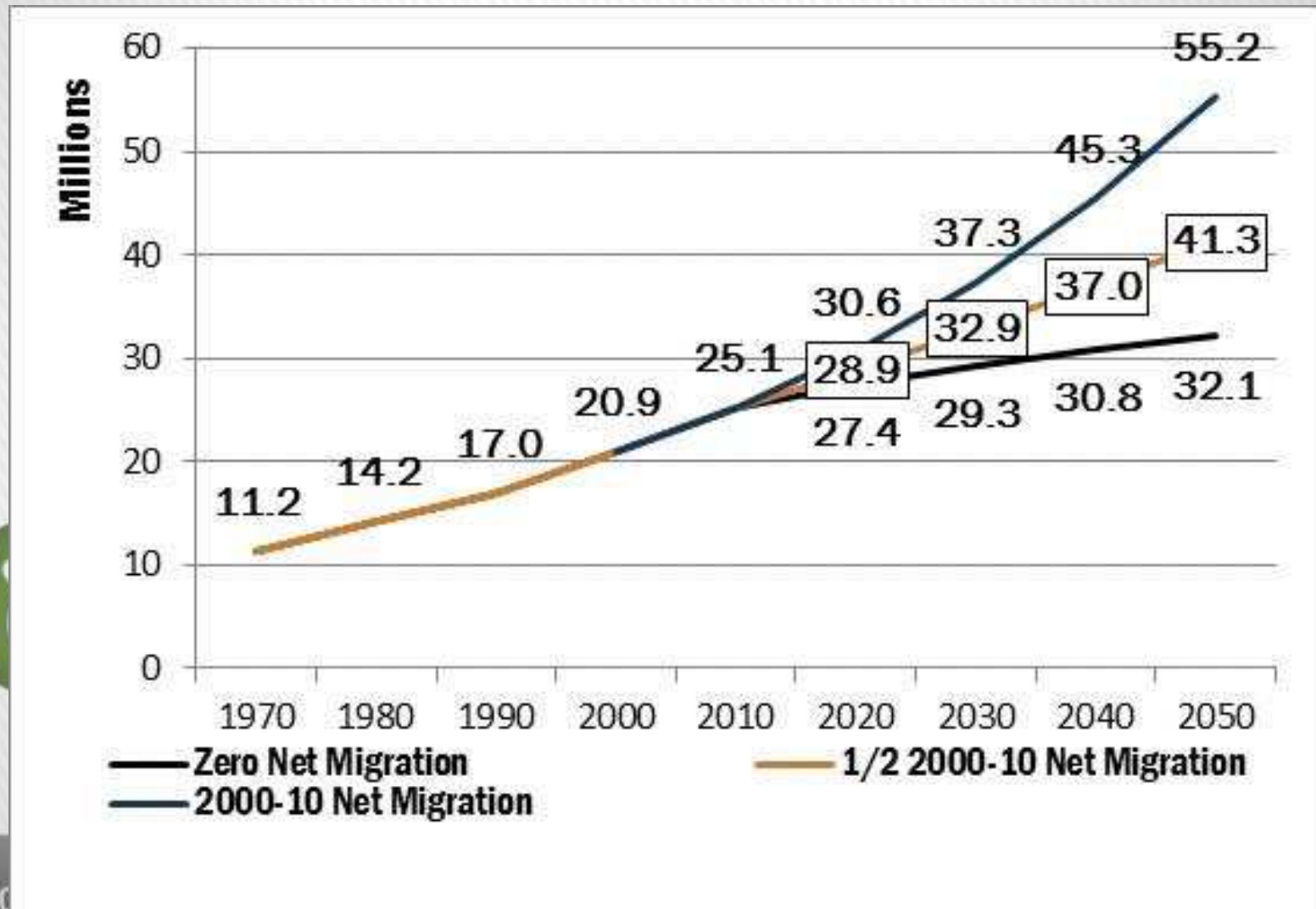


- International Trade Data System implemented by December 2016
- Use single electronic platform to complete forms needed by multiple government agencies
- Streamline exporting process and reduce clearing times

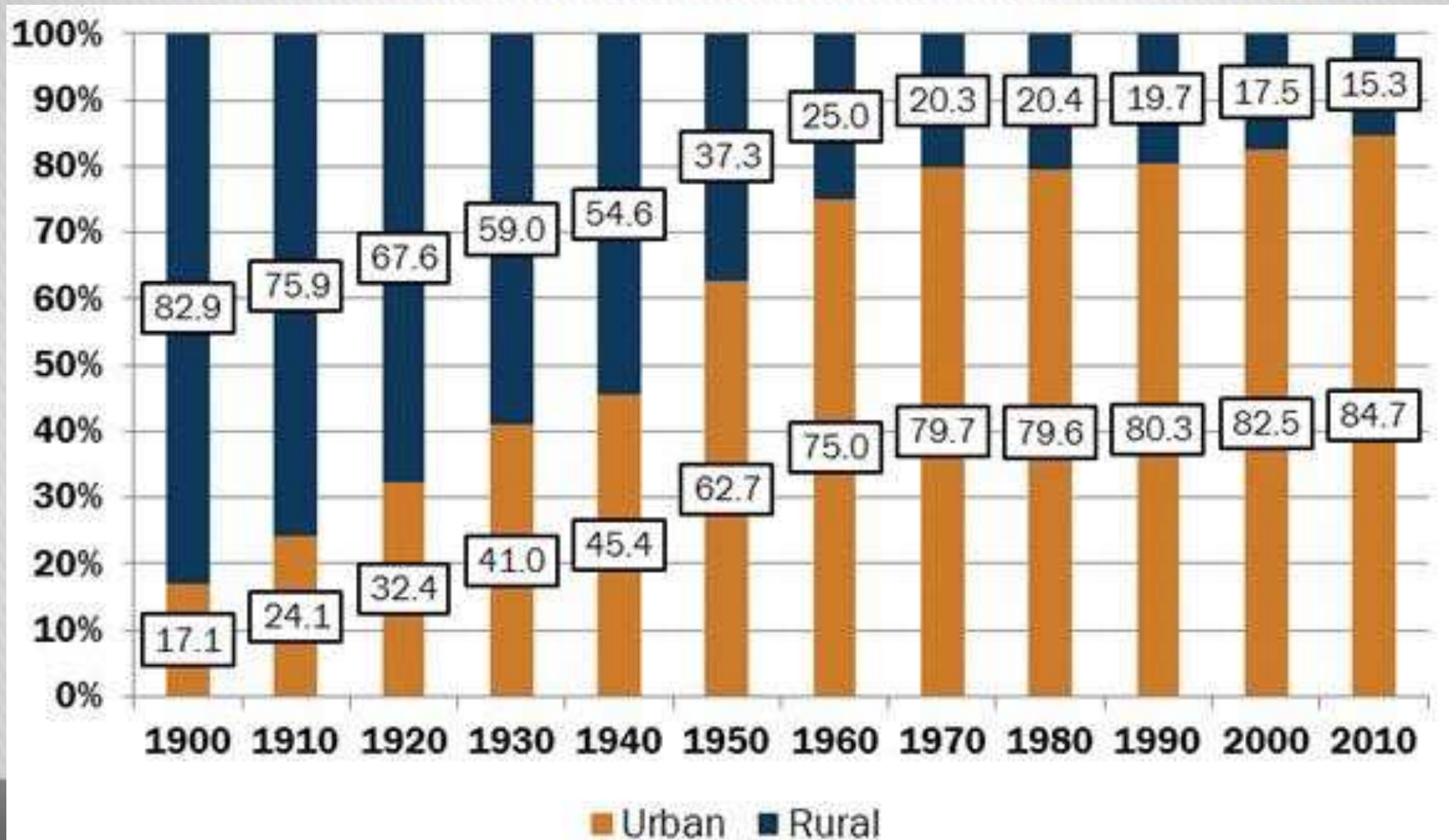
Socio-Demographic Trends



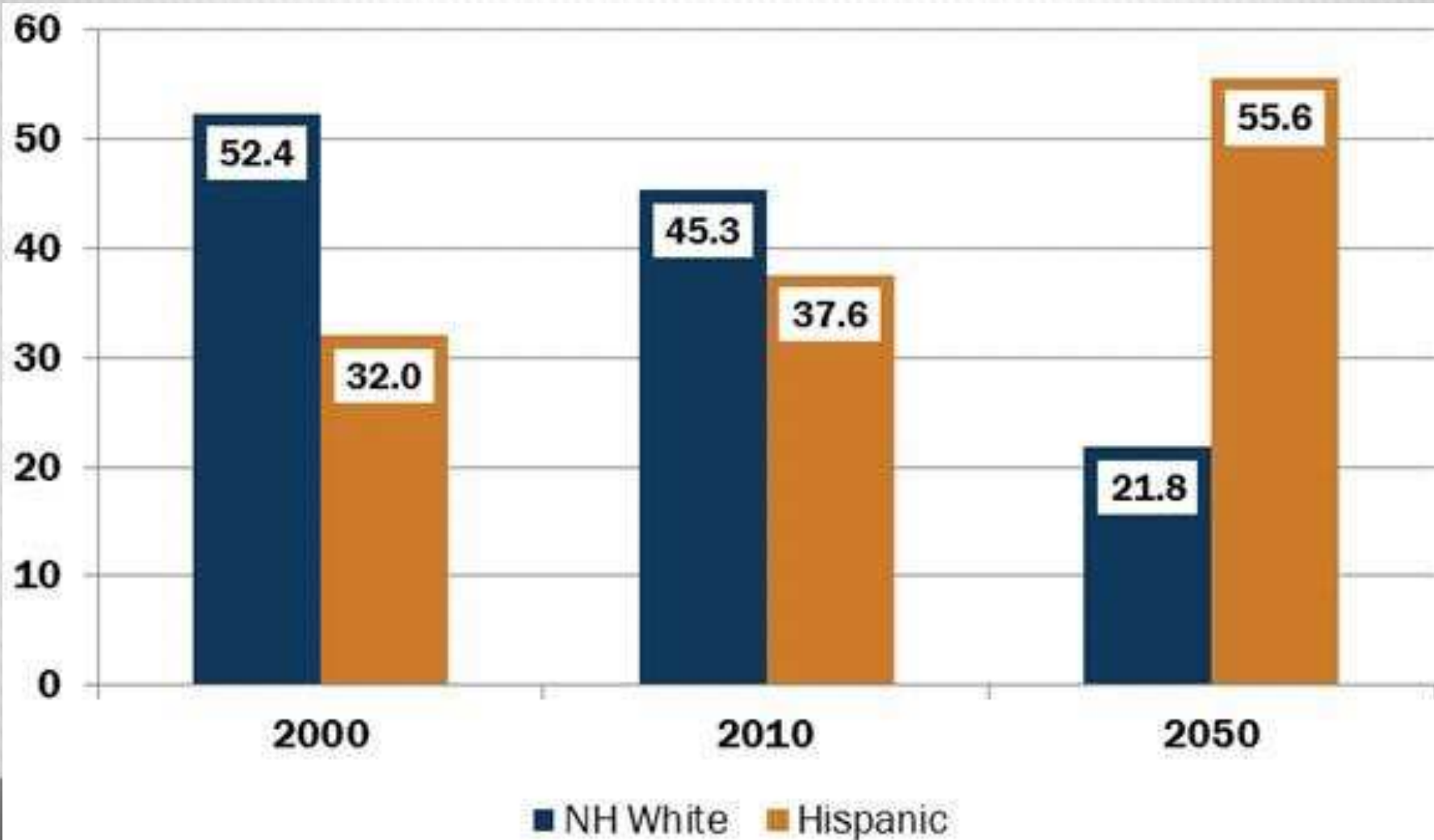
Population in Texas from 1970 to 2010 and Projected to 2050



Urban/Rural Population in Texas (1900 -2010)



NH White and Hispanic Populations as a Percent of the Texas Population in 2000 and 2010 and Projected in 2050



Environmental Trends



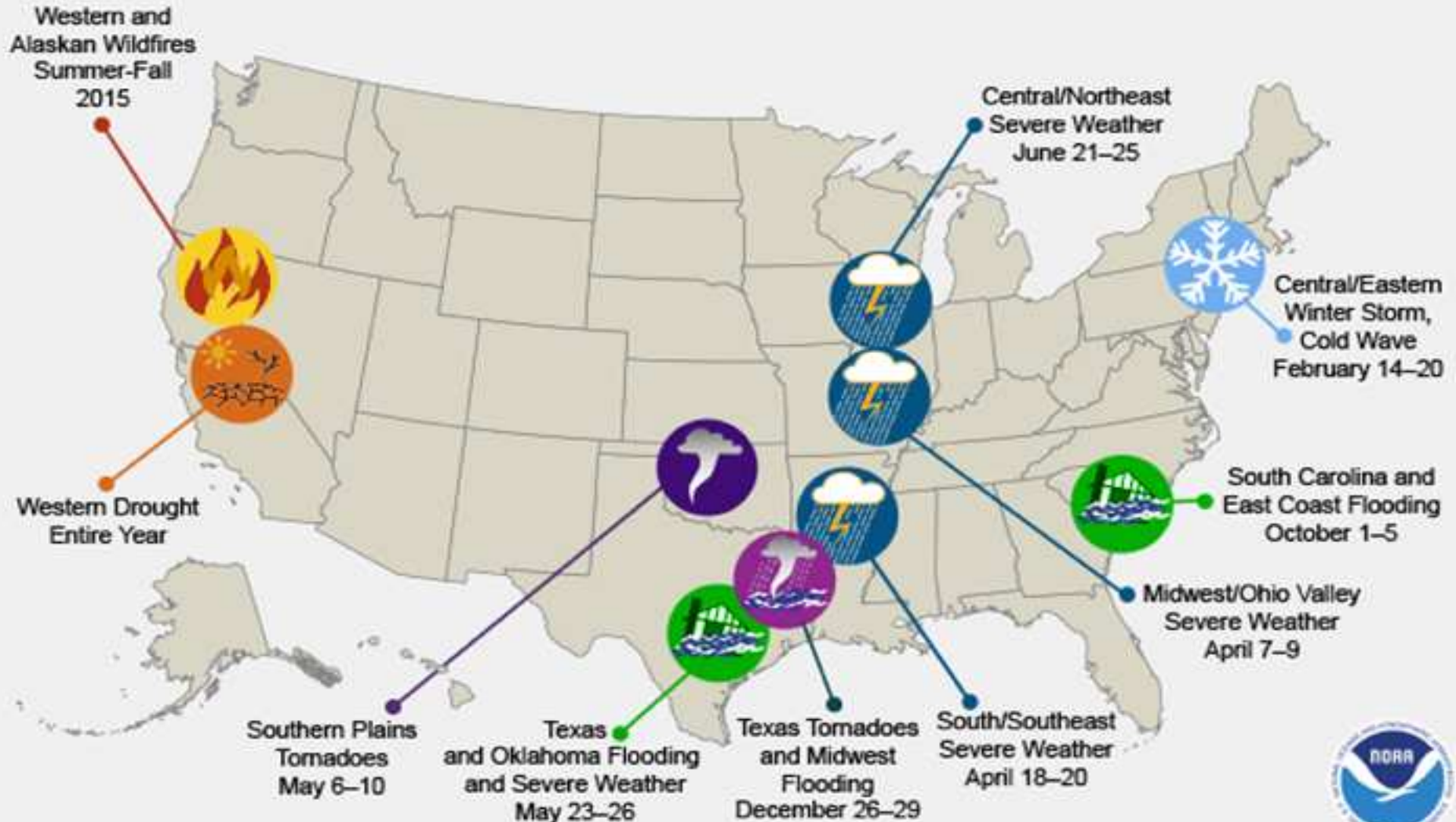
Environmental Trends

Concerns for the next 50 to 100 years:

- Sea Level Rise (virtually certain, 99% probability)
- Rise in Arctic temperatures (virtually certain, 99%)
- More very hot days with associated heat waves and fewer cold days (very likely, 90%)
- Changes in precipitation levels and frequency (very likely, 90%)
- Increase in the intensity of strong hurricanes (likely, 67% probability)

Extreme Weather Events

U.S. 2015 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the ten billion-dollar weather and climate disasters that impacted the United States during 2015.

Impact on Infrastructure



Regulatory Response



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Industry Response

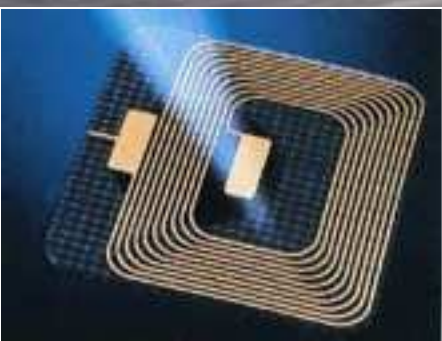


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Consumer Response



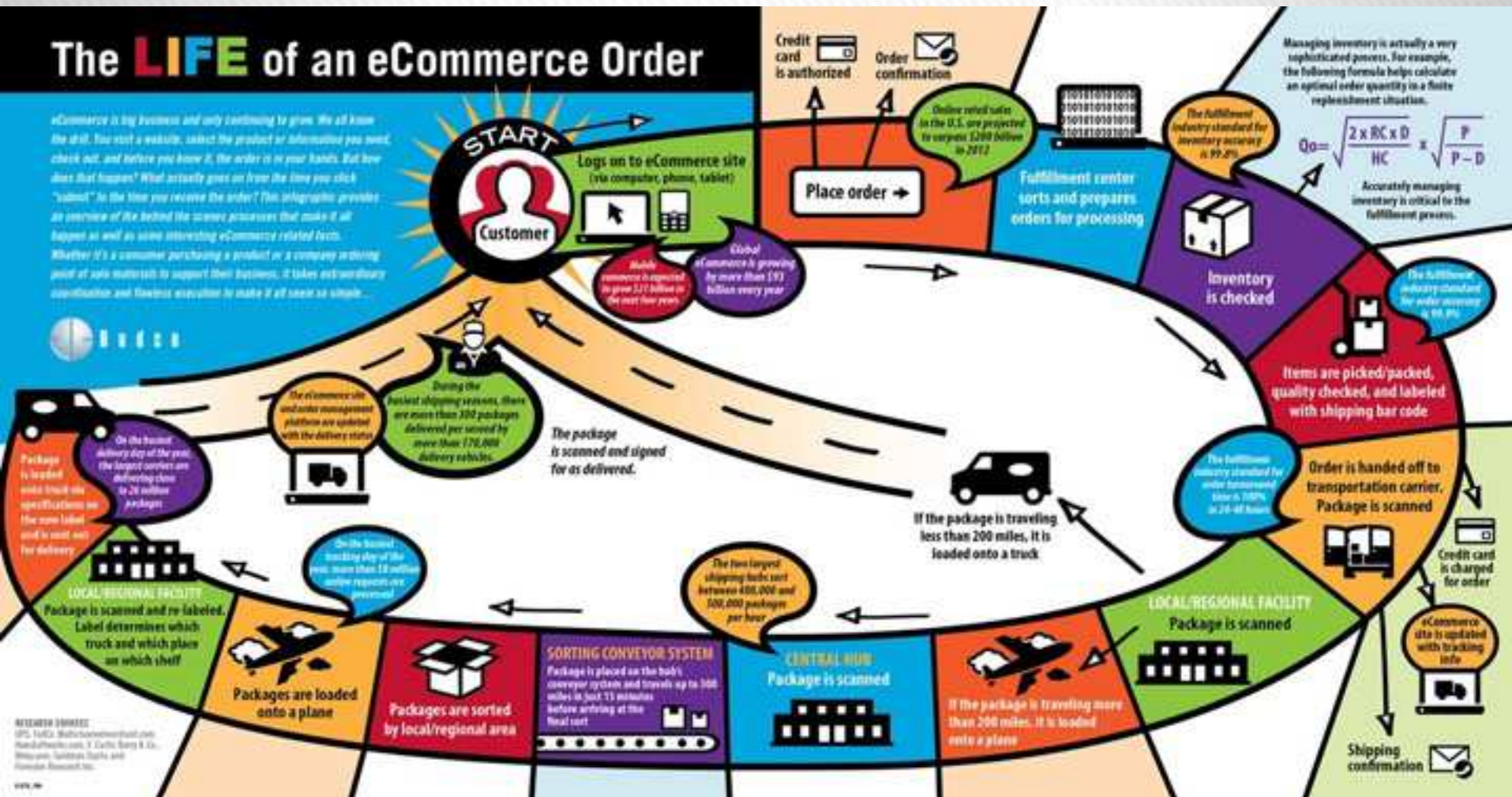
Technology Trends



Electronic Commerce

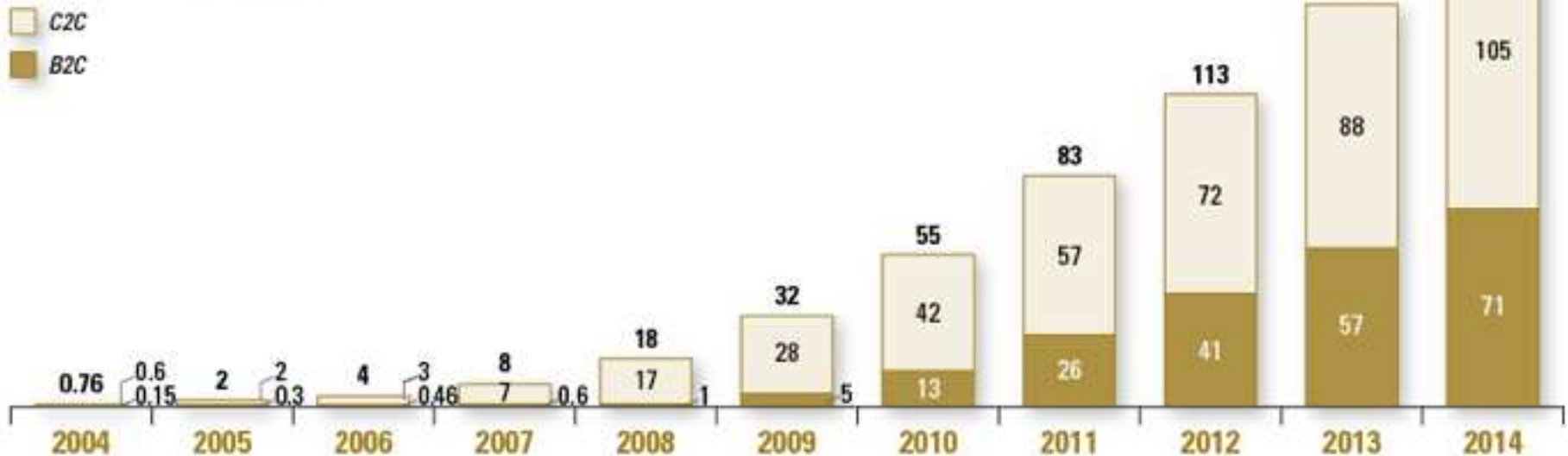
The LIFE of an eCommerce Order

eCommerce is big business and only continuing to grow. We all know the drill. You visit a website, select the product or information you need, check out, and before you know it, the order is in your hands. But how does that happen? What actually goes on from the time you click "submit" to the time you receive the order? This infographic provides an overview of life behind the scenes processes that make it all happen as well as some interesting eCommerce related facts. Whether it's a consumer purchasing a product or a company ordering just in time materials to support their business, it takes extraordinary sophistication and flawless execution to make it all work so smooth.



Electronic Commerce

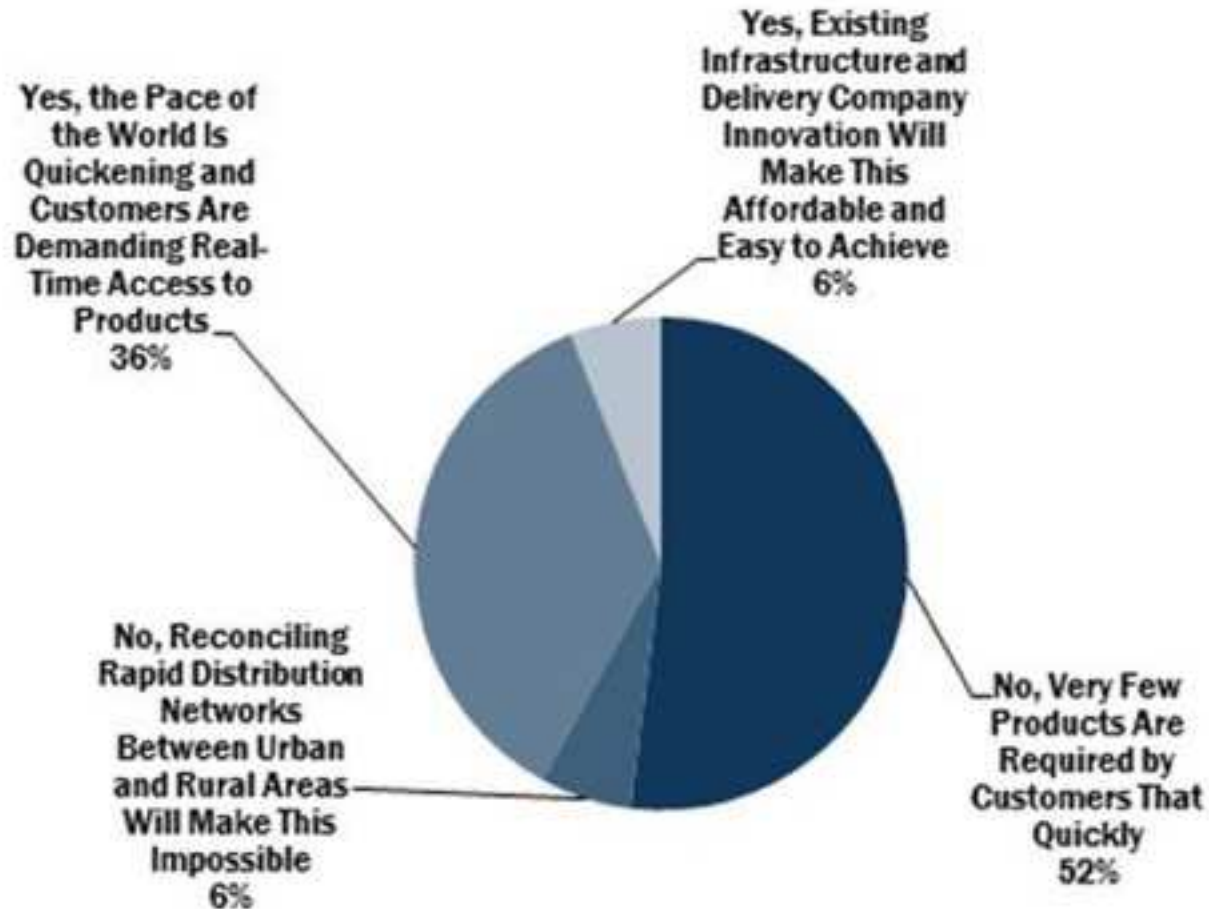
E-commerce market size
(2004-2014, US\$ billion)



Sources: iResearch, Analysys International, A.T. Kearney analysis

Note: Figures for 2010-2014 are estimates.

Is Same Day Delivery Inevitable?

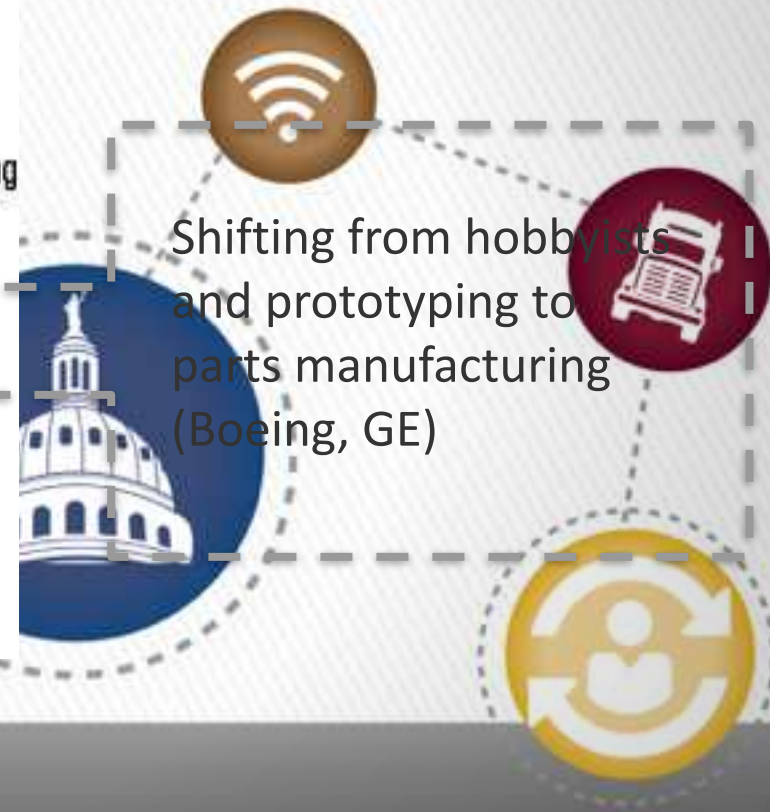
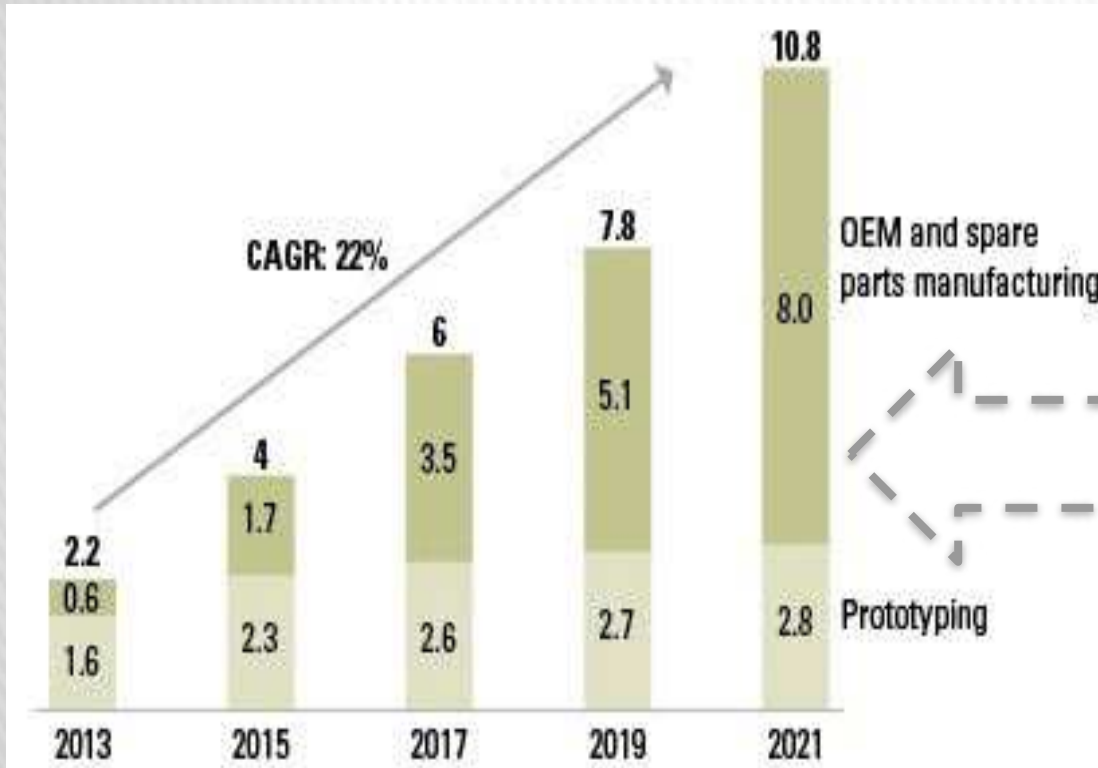


3D Printing

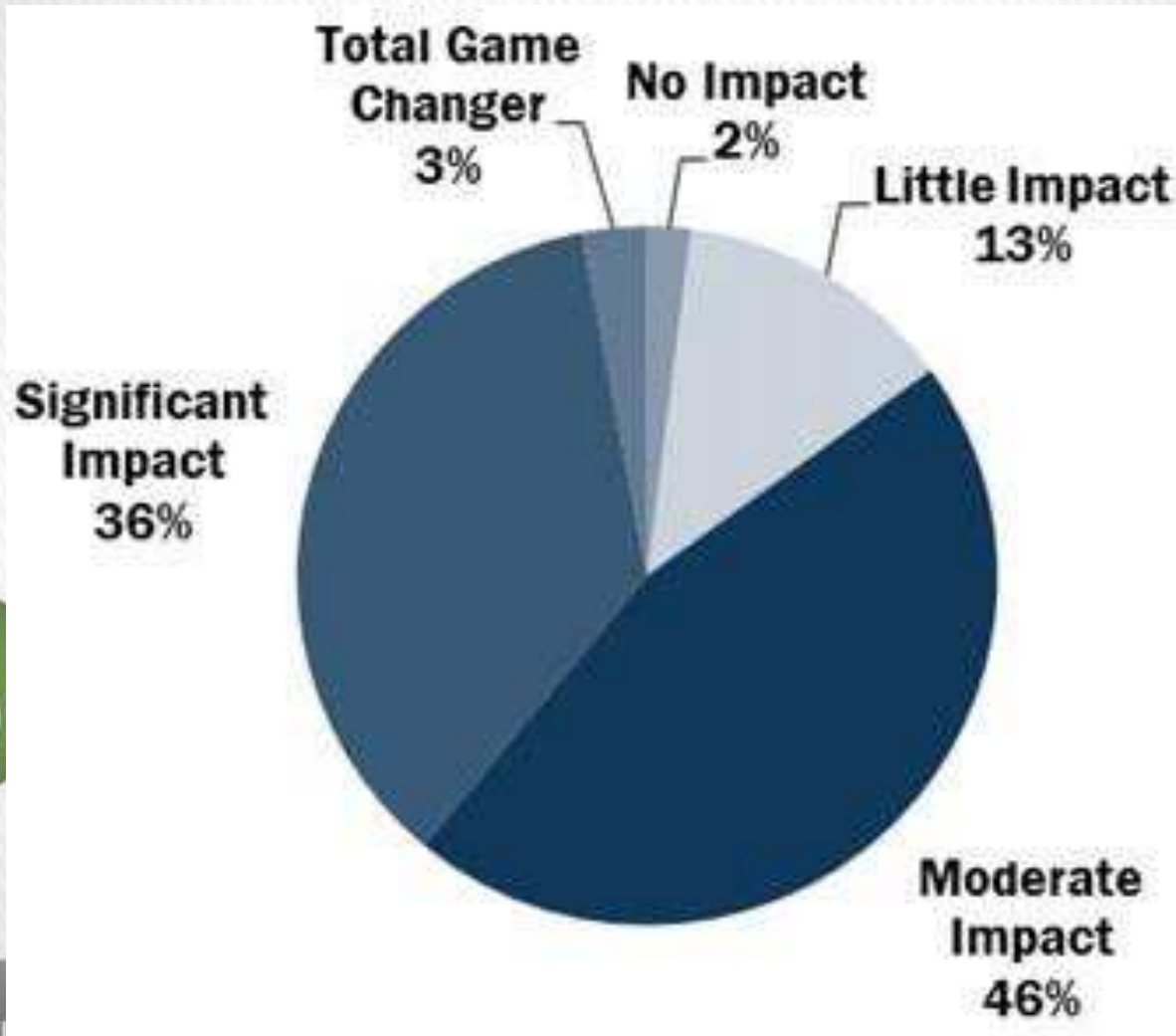


- Create objects by adding materials (not subtracting)
- Customization of objects
- Goods will be made closer to final destination

3D Printing Market Trends

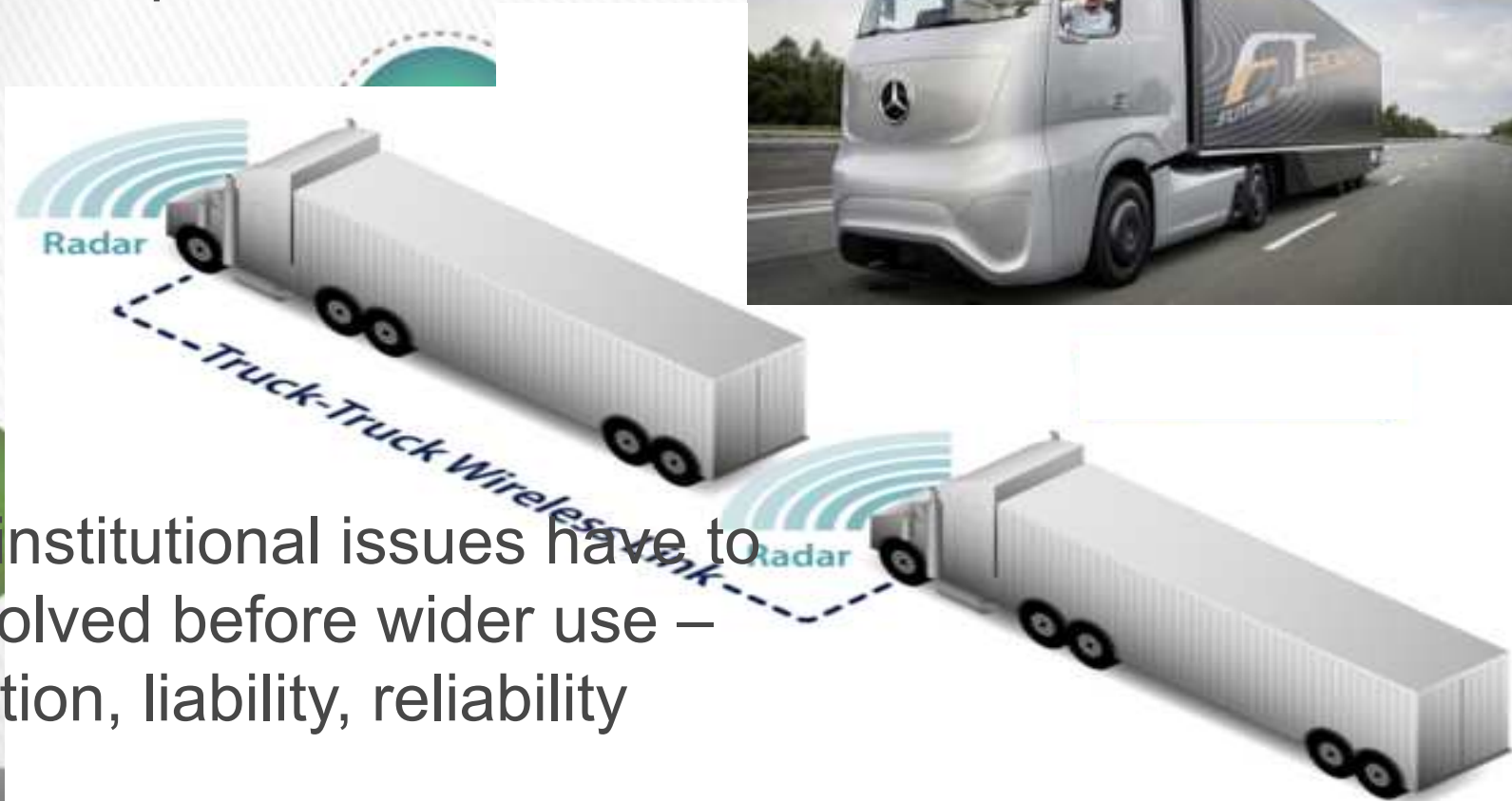


Big or Massive Data: Expected Impact on Supply Chain



Automated Trucks and Platoons

- Public acceptance is a concern



- Many institutional issues have to be resolved before wider use – legislation, liability, reliability

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