The Future of Transportation in the Heartland

Julie Lorenz, Secretary, Kansas Department of Transportation
76th Annual Meeting of the Midwestern Legislative Conference

PLENARY SESSION

FUTURE OF TRANSPORTATION IN THE HEARTLAND

Julie Lorenz, Secretary
Kansas Department of Transportation
Director of the Kansas Turnpike Authority
Chair, KS Infrastructure Hub
Transportation is about roads and bridges AND so much more
Connect

People

Freight

Technology
Stand the test of time
Trends and Implications
Demographic Trends: Pace of Population Growth Slowing

Prosperity Trends: 42% of U.S. Households can’t afford basic costs.

- 13% earn income below poverty line
- 29% are asset limited, income constrained & employed (ALICE)
- Average households spend 16% of total expenditures on transportation – 20% in rural areas. (2nd to housing)
Trade & Logistic Trends: Projected GDP Growth 2020-2030

- Europe: $22.3 trillion +25%
- Russia & Former Soviet Union: $2.7 trillion +32%
- East Asia: $33.4 trillion +55%
- North America: $26.6 trillion +28%
- Middle East & Sub-Saharan Africa: $5.9 trillion +43%
- India & South Asia: $5.7 trillion +74%
- Southeast Asia: $4.6 trillion +60%
- Mexico, Central America, and the Caribbean: $2.3 trillion +33%
- Australia and Oceania: $2.2 trillion +29%
- South America: $4.4 trillion +38%

2030 real values shown. Units in $2015 dollars
Regional Trends: Water Demand Increase by 2050
Technology Trends: Historic Adoption of New Tech

(Years until used by one-quarter of American population)

First commercially available year

1870 1900 1930 1960 1990 2000 2030

- Electricity (46 yrs.) 1873
- Telephone (35 yrs.) 1876
- Radio (31 yrs.) 1897
- Television (26 yrs.) 1926
- Personal Computer (16 yrs.) 1975
- Mobile Phone (13 yrs.) 1983
- The Web (7 yrs.) 1991
- Smartphone (5 yrs.) 2005
- Tablet (2 yrs.) 2010
Energy Trends: Projected U.S. EV Sales

**EV SHARE OF NEW VEHICLE SALES**

- **40%**
  - 35 MILLION EVS

- **35%**

- **30%**

- **25%**
  - 20 MILLION EVS

- **20%**

- **15%**

- **10%**

- **5%**
  - 10 MILLION EVS

- **0%**
  - HISTORICAL

**Projected Sales**

- **EPRA HIGH (2018)**
- **BCG (2020)**
- **BNEF (2020)**
- **EEI (2018)**
- **WOOD MAC (2020)**
- **EPRI MED (2018)**
- **AEO (2020)**

**Years**

- 2015
- 2020
- 2025
- 2030
World Economic Forum Identified the Most Severe Risks on a Global Scale over next 10 years

1. Climate action failure
2. Extreme weather
3. Biodiversity loss
4. Social cohesion erosion
5. Livelihood crises
6. Infectious diseases
7. Human environmental damage
8. Natural resource crises
9. Debt crises
10. Geoeconomic confrontation
The country urgently needs a modernized inter-state highway system to relieve existing congestion, to provide for the expected growth of motor vehicle traffic, to strengthen the Nation's defenses, to reduce the toll of human life exacted each year in highway accidents, AND to promote economic development.”

Dwight D. Eisenhower, January 24, 1956
“We choose to go to the Moon in this decade and do the other things, not because they are easy, but because they are hard; because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one we intend to win, and the others, too.”
Bipartisan Infrastructure Law Funding Opportunities

$1.2 Trillion
nationwide over 5 years
120+ New Programs
180+ Existing or Reinstated Programs

60%
Formula Funds

$3.8 Billion
Total for Kansas

40%
Competitive Grants

TBD
Total for Kansas

Not use it or lose it funds
Baseline investments by sector nationwide

In Billions

- Transportation: $284
- Energy & Power: $73
- Broadband: $65
- Water: $55
- Resilience: $47
- Environmental remediation: $21
- Western water infrastructure: $8

Total: $284
## BIL formula funding for Kansas

<table>
<thead>
<tr>
<th>Preliminary Estimates</th>
<th>5-year Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Highway Aid*</td>
<td>$2.6 billion</td>
</tr>
<tr>
<td>Bridge Replacement &amp; Repair</td>
<td>$225 million</td>
</tr>
<tr>
<td>Public Transportation</td>
<td>$272 million</td>
</tr>
<tr>
<td>Airports</td>
<td>$109 million</td>
</tr>
<tr>
<td>EV Charging Network</td>
<td>$40 million</td>
</tr>
<tr>
<td>Broadband</td>
<td>$100 million</td>
</tr>
<tr>
<td>Water Infrastructure</td>
<td>$454 million</td>
</tr>
<tr>
<td>Wildfires Protection</td>
<td>$25 million</td>
</tr>
<tr>
<td>Cyberattack Protection</td>
<td>$14 million</td>
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</tbody>
</table>

**Statewide Totals:** $3.8 billion

*Includes state, city & county

**NOTE:** Not all new money & does not include potential discretionary dollars
More than $84 billion will be invested in CSG-Midwest region under the Bipartisan Infrastructure Law.
“Opportunity is missed by most people because it is dressed in overalls and looks like work.”
- Thomas Edison
Midwest States rely on large infrastructure networks despite having smaller populations

<table>
<thead>
<tr>
<th>State</th>
<th>People per lane mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois</td>
<td>42</td>
</tr>
<tr>
<td>Indiana</td>
<td>34</td>
</tr>
<tr>
<td>Iowa</td>
<td>14</td>
</tr>
<tr>
<td>Kansas</td>
<td>10</td>
</tr>
<tr>
<td>Michigan</td>
<td>40</td>
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<td>Minnesota</td>
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<td>Nebraska</td>
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<td>North Dakota</td>
<td>5</td>
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<tr>
<td>Ohio</td>
<td>45</td>
</tr>
<tr>
<td>South Dakota</td>
<td>5</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>25</td>
</tr>
<tr>
<td>U.S. Avg</td>
<td>38</td>
</tr>
</tbody>
</table>

People per mile of distribution line

- Electric Co-Ops Avg.: 7
- Public Utility Avg.: 48
Highway & Bridge

Opportunities

• **New** Bridge program
• **New** Safe Streets and Roads for All program
• **New** Electric Vehicle Charging Infrastructure program
• **New** Carbon Reduction program
Highway & Bridge

Opportunities:
Electric Vehicle Charging Infrastructure
Highway & Bridge

Opportunities: Bridge Program
Highway & Bridge

Opportunities:
Safe Streets & Roads for All
Water highlights

Opportunities

• Funding to address aging water infrastructure, remove lead service lines, address emerging contaminants
Water highlights

Opportunities: Removing lead service lines
Energy highlights

Opportunities

• Grant to enhance resilience of electric grid
• Weather Assistance Program
• Grant for modernizing energy infrastructure
• Grants battery processing
• Energy efficiency in public schools
• Expands Energy Efficiency & Conservation Block Grant program eligibilities
Energy highlights

Opportunities:
Energy Efficiency for Schools
Energy highlights

Opportunities:
Modernizing Energy Infrastructure
Opportunities

• Funding distributed through NTIA, FCC & USDA:
  • BEAD Program
  • Affordable Connectivity Program (FCC)
  • Digital Equity
  • Tribal
  • USDA ReConnect Program
  • Middle Mile (Competitive)
  • Rural Broadband Program
Broadband highlights

Opportunities:
Rural Broadband Program
Broadband highlights

Opportunities:
Affordable Connectivity Program
Resilience highlights

Opportunities

- Includes responses to climate change, natural hazards & pollution prevention and remediation
- Managed through FEMA, EPA & Department of Interior:
  - Flood Mitigation Assistance Grants
  - Building Resilient Infrastructure & Communities (BRIC) Program
  - Safeguarding Tomorrow through Ongoing Risk Mitigation (STORM)
  - Wildfires Protection
Resilience highlights

Opportunities:
Flood Mitigation Assistance Grants
Resilience highlights

Opportunities: Safeguarding Tomorrow through Ongoing Risk Mitigation (STORM)

Andover, Kansas-April 29, 2022 (courtesy of Josh Wells)
Risks and Concerns

• Local capacity to apply and administer federal funds
• Ability of the state and municipalities to provide matching funds if needed
• Meeting Justice40 – Underserved Communities
• Meeting Buy American requirement
• Potential Supply Chain issues
• Work Force shortage
• These funds span multiple federal agencies and will require a lot of cross sector and federal/state/local collaboration to deploy fund well
• Difficulty of local communities and individuals meeting full program requirements
Challenges and Policy Implications

• Greatest benefit at the local level, but communities concerned about being able to deliver. Key concerns:
  
  • Workforce capacity
  • Match requirements
  • Lack of technical/grant writing expertise

• State agency concerns about staffing and capacity to deliver; pursuing grants
• Lack of awareness about opportunities available & who can access them
• Cross-sector and regional collaboration needed to maximize impact and to access some grants
The Power of AND
But this isn’t new territory...
Rural Electrification Act is a great example of holistic approach to problem-solving.
Morris Cooke charged with leading REA

Needed a middle path between Big Corporations & Big Government.

Solution: Rural Co-ops
In 1935, 10% of rural America had electricity.
5 years later 40% of rural America had electricity
15 years later **90%** of rural America had electricity equal to urban America
Rural electrification

Delivered cheaper than estimate
• Estimate: $1,350 a mile
• Actual: $850 a mile

Major progress quickly
• 10% to 90% in 15 years

Federal Govt. made small profit on the loans

The best solutions are:

✔ Shaped by local communities
  • Co-Op owns

✔ Public sector guides/supports
  • Create a model for others to replicate
  • Provided loans

✔ Encourage private investment
  • Private utilities began adding lines in the country

✔ Incentivize long-term progress
  • Rural America electrified - more people able to purchase electric goods
Transportation is roads and bridges. **AND**

Most importantly, it’s about people.
“People that are looking for jobs are not going to move to a location just because the pay is good. Quality of life aspects have to be available for all members of the family. A good education for students, recreation/sporting activities, arts/entertainment, shopping—all are vital for a community to do more than survive, but to prosper and want to stay rooted.”
THANK YOU

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