

Overview of the Nebraska Transportation Center And Mid-America Transportation Center

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Nebraska Transportation Center

- Motivation
 - Umbrella organization for transportation research at the University of Nebraska
 - UNL, UNMC, UNO, and UNK
 - Encourage multi-disciplinary research
 - More funding, students
 - Safer, more efficient transportation system

NTC Research Funding

- By the Numbers
 - 91 faculty affiliates
 - 64 research projects
 - 5 Year Total Funding
 - \$42.2 million
 - Current: Total Funding
 - \$18.8 million
 - 30 projects
 - Expenditures FY 2016
 - ~ \$6 million
- Students:
 - 47 Graduate students (funded)
 - 59 Undergraduate



Research Sponsors: Public

- Nebraska State Agencies
 - Nebraska Department of Roads 
 - Nebraska Emergency Management Agency
 - Nebraska Department of Motor Vehicles
 - Nebraska Department of Education
 - Coordinating Commission for Post Secondary Education

Research Sponsors: Public

- US Department of Transportation
 - Federal Highway Administration
 - Strategic Highway Research Program
 - Federal Railway Administration
- US Department of Defense
 - ACE
 - TRANSCOM
- US Environmental Protection Agency
- US National Science Foundation



Research Sponsors: Private

- Motorsports Safety Technology
 - NASCAR, IndyCar
- Valmont Industries
- Owens Corning
- Union Pacific
- Wavetronix

Industry Partnerships

- Nebraska Trucking Association
- Nebraska Logistics Council
- Crete Carrier
- Werner Enterprises
- Union Pacific
- Iteris
- Trinity Industries
- Ingram Barge Lines



Space: Whittier



Space: Whittier



- ITS Lab (2000 ft²)
- 3 test beds : railway, arterial, highway
 - Focus: Safety and Operations

- Breadth and Depth of Transportation Research at NTC
 - Transportation Systems and Logistics
 - Structures
 - Roadside Safety
 - Midwest Roadside Safety Facility
 - Geotechnical and Pavement
 - Environmental and Water

The background of the slide features a large, stylized, light gray graphic that resembles a series of concentric, overlapping curved lines or a stylized 'S' shape, creating a sense of motion or a road winding into the distance. This graphic is set against a white background with a thin red horizontal bar at the very top.

USDOT

**University Transportation
Center Program**

Mid-America Transportation Center (MATC)

- U.S.D.O.T. Region VII University Transportation Center
 - Awarded August 2006
 - ~ \$2 million per year for FY 2007-2010
 - ~ \$3.5 million per year for FY 2011-12
 - Research, Education and Technology Transfer
- THEME
 - Improving safety and minimizing risk associated with increasing multi-modal freight movements on the U.S. surface transportation system



Fixing America's Surface Transportation (FAST) Act Region 7 University Transportation Center



MATC Research Portfolio

EXTERNAL STRESSORS

Natural

- Flooding
- Storms
 - Wind
 - Ice
- Earthquakes

Man Made

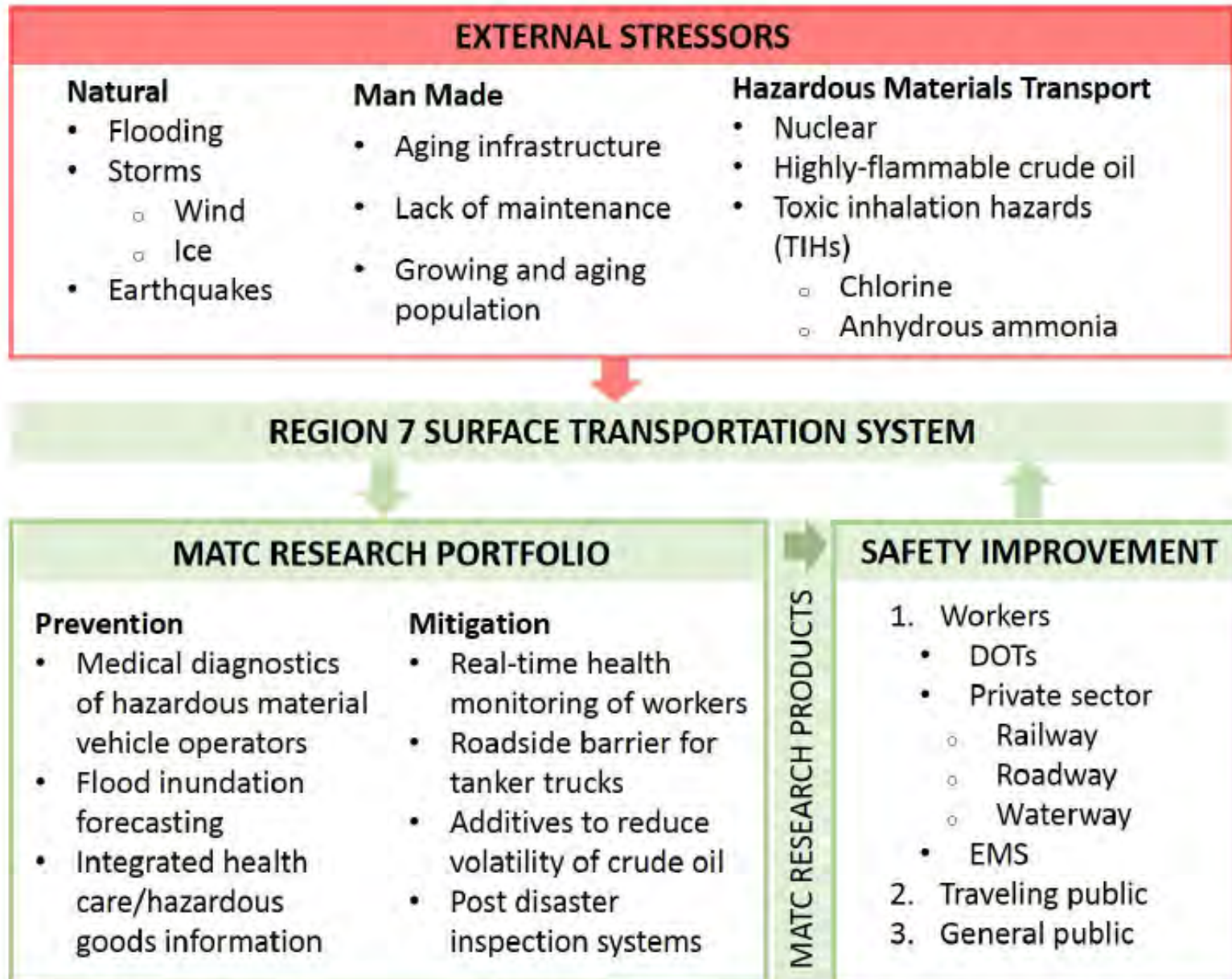
- Aging infrastructure
- Lack of maintenance
- Growing and aging population

Hazardous Materials Transport

- Nuclear
- Highly-flammable crude oil
- Toxic inhalation hazards (TIHs)
 - Chlorine
 - Anhydrous ammonia



MATC Research Portfolio



MATC Intern Program

- Founded in 1996
- > 300 participants
- Technical Tours
- Student Presentations
- Scholarships
- Funded by MATC, Public and Private Sponsors



MID-AMERICA
TRANSPORTATION CENTER

MATC After School Program



Science Inquiry Based Lessons



Students & Mentors



Hands on Activities



MATC Scholars Program



MATC Scholars Program

- Day 1: Why graduate school?
- Day 2: How to succeed in graduate school



MATC Scholars Program

- 2010: 16 students
- 2012: 32 students
- 2015: 45 students
- 2016: Native American
- 2017 / 2018: Distance based / Native American



- Any Questions?