Moving Toward a More Sustainable Future for Transportation

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Collage of Sustainability
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Your Destination...Our Priority

What Do We Want The Future To Be and How Do We Get There?

- Ability of all people to access goods, services, friends, family, work, recreation, education and health care with little or no fossil fuel use??

Where Are We Today?

- Economic restructuring impacts
  - Personal wealth
  - Economic vitality and growth
  - Reduced funding for public services and greater uncertainty
- Changing population with changing needs and expectations
  - Aging population
  - Increased diversity
  - Different expectations for how people live and work
- Rising costs for fossil fuels
- Rapid technological change

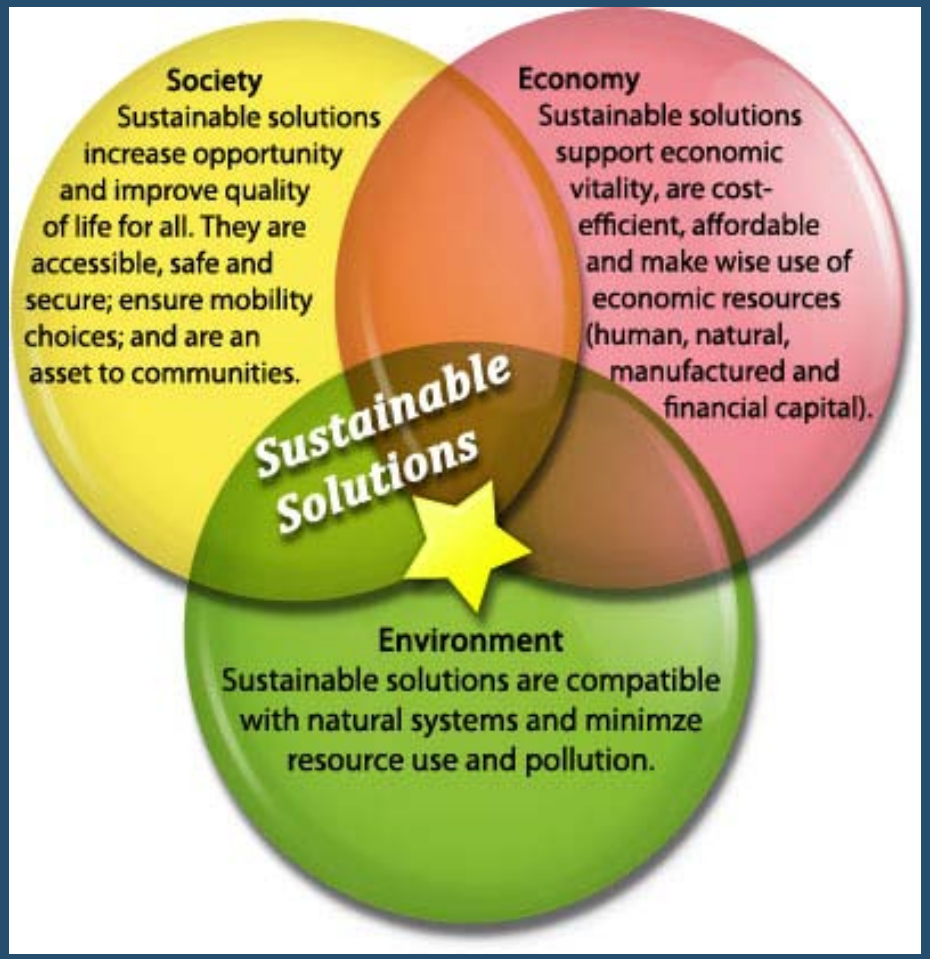
All of which will impact an already aging (and failing?) transportation system

Sustainability Is Key!

- Addresses the economic and demographic realities of the “new normal”
- Fosters innovation
- Considers a broad range of risks
- Increases the efficiency and effectiveness of public investments
- Enhances quality of life

The public expects it!

Defining Sustainability



Sustainable practices respect, support and regenerate environmental systems, the economy and society over many generations

Environmental Sustainability

Sustainable solutions

- Are compatible with and may enhance the environment
- Reduce emissions and pollution
- Reduce the amount of resources needed to build, operate and maintain structures or systems

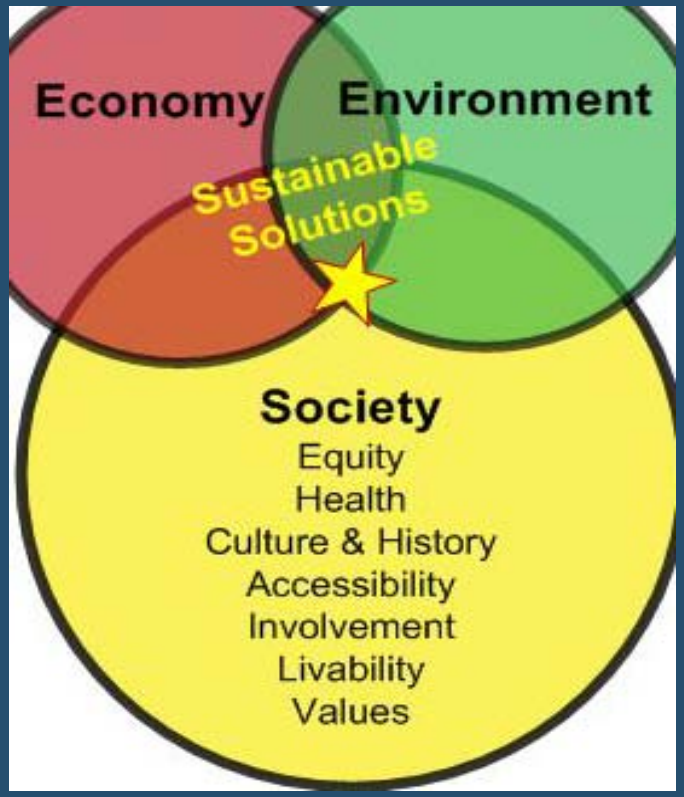
Strategies for Environmental Sustainability

- Vehicle efficiency
  - ✓ Improve vehicle technology
  - ✓ Improve driver behavior
- VMT reduction
  - ✓ Telework, flex schedules, virtual meetings, etc.
  - ✓ Transit, carpool, bike, or walk
  - ✓ Mixed and compact land use
- Better land use decisions
  - ✓ Compact development
  - ✓ TOD and corridor-based development (Nodes and links)
  - ✓ Mixed uses
  - ✓ Accessible development

Strategies for Environmental Sustainability

- Efficient use of existing infrastructure
  - ✓ ITS, signal timing, etc.
  - ✓ Preventative maintenance and asset management
  - ✓ Peak pricing
  - ✓ Smart vehicles (driver technology)
- Improved construction and maintenance practices
  - ✓ Reduce salt use
  - ✓ Reduce and/or slow and clean run-off Use of low-emitting/less toxic materials
  - ✓ Quiet pavements
  - ✓ Energy efficient lighting
  - ✓ Use of solar energy for lighting, ITS, etc.

Societal Sustainability



Sustainable solutions increase opportunity and improve quality of life for all

- Accessible, safe, secure
- Mobility choices
- Community involvement and investment

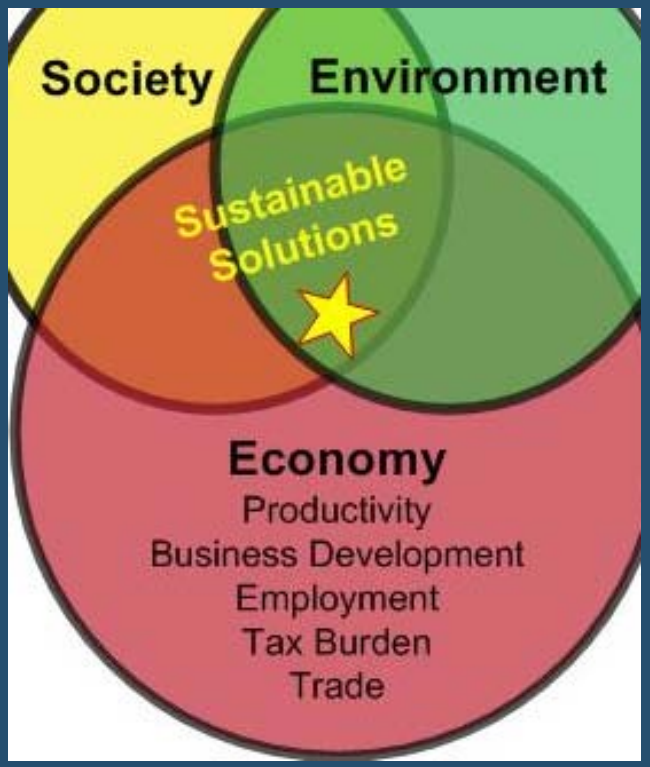
Strategies for Societal Sustainability

- Modal options
  - ✓ Provide safe, affordable transits that takes people where they need to go
  - ✓ Make it safe and convenient to walk and bike
  - ✓ ADA compliant and maintained year-round
- Community Involvement
  - ✓ Collaborate with partners and stakeholders
  - ✓ Bring the community into the process from the beginning
  - ✓ Make extra efforts to reach out to disadvantaged and underserved communities

Strategies for Societal Sustainability

- Context Sensitive Approaches
  - ✓ Use a CSS process for planning and project development
  - ✓ Focus on performance-based solutions
  - ✓ Protect historic and cultural resources assets

The Economy



Sustainable solutions

- Support economic vitality
- Are cost-efficient
- Affordable
- Make wise use of economic resources (human, natural, manufactured, financial)

Strategies for Economic Sustainability

- Economic productivity
  - ✓ Provide a complete, efficient network
  - ✓ Ensure system efficiency
  - ✓ Provide intermodal connections
- Business vitality
  - ✓ Address construction impacts
  - ✓ Ensure safe customer access
  - ✓ Build-up and align business sectors

Strategies for Economic Sustainability

- Financing and affordability
  - ✓ Use performance-based designs
  - ✓ Address multiple issues at once
  - ✓ Develop consistent, fair funding systems
  - ✓ Increase cost-effectiveness of construction, maintenance and operational practices
- Maximize efficiency
  - ✓ ITS and other technology
  - ✓ Efficient pricing and incentives

MnDOT Sustainability Initative

- High-level “Flagship” Initiative
- Not just green
- Integrate sustainability throughout MnDOT
  - Internal business practices and the workplace
  - Planning, designing, constructing, operating and maintaining the transportation system

Approach

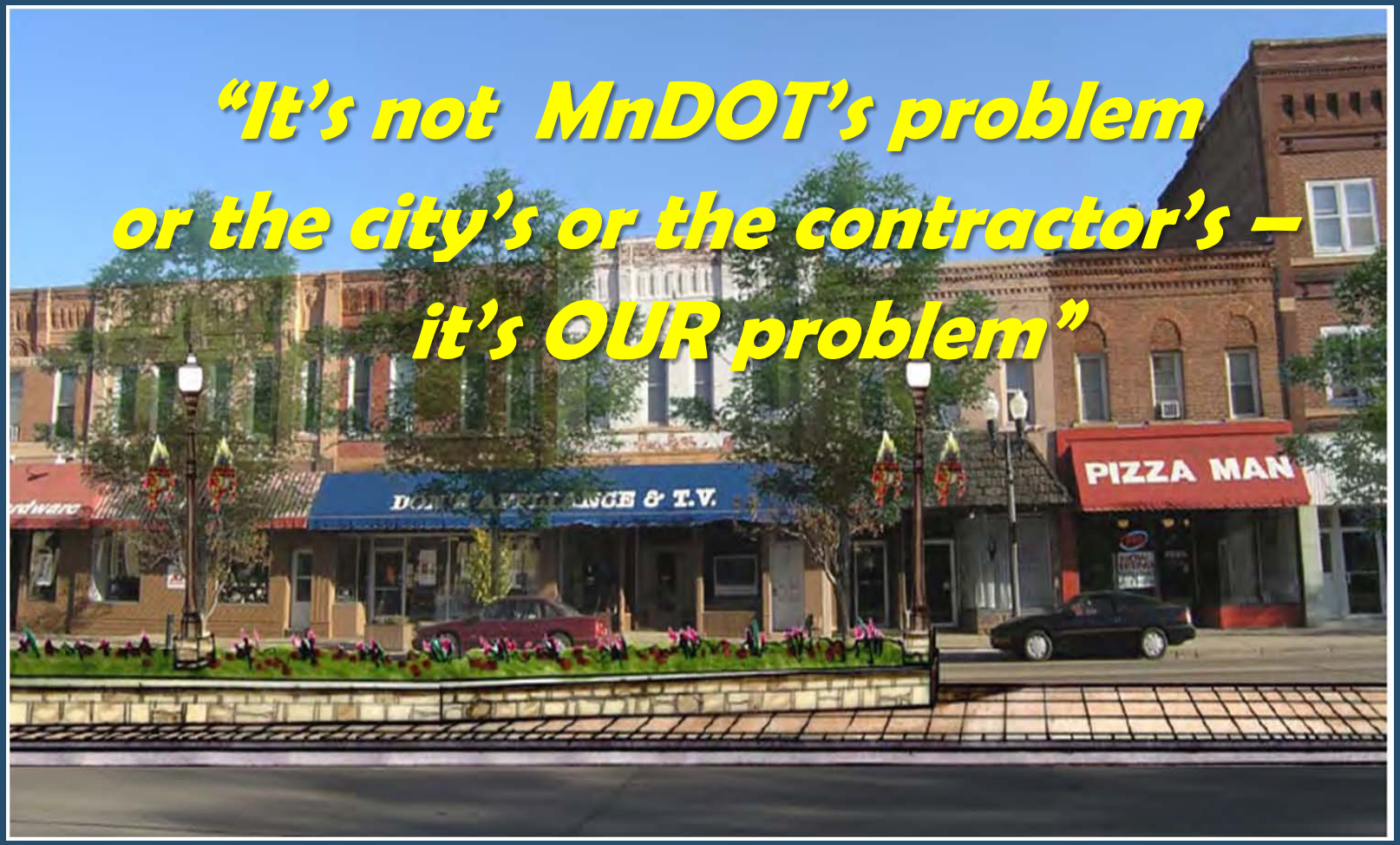
- Increase understanding about sustainability
- Build and expand on what MnDOT already does
- Incorporate sustainability into visions and plans
- Effectively link existing initiatives and practices
- Develop resources and tools to help employees recognize and develop sustainable solutions
- Encourage innovation
- Foster collaboration
- Measure results and document success

A Few Recent Examples

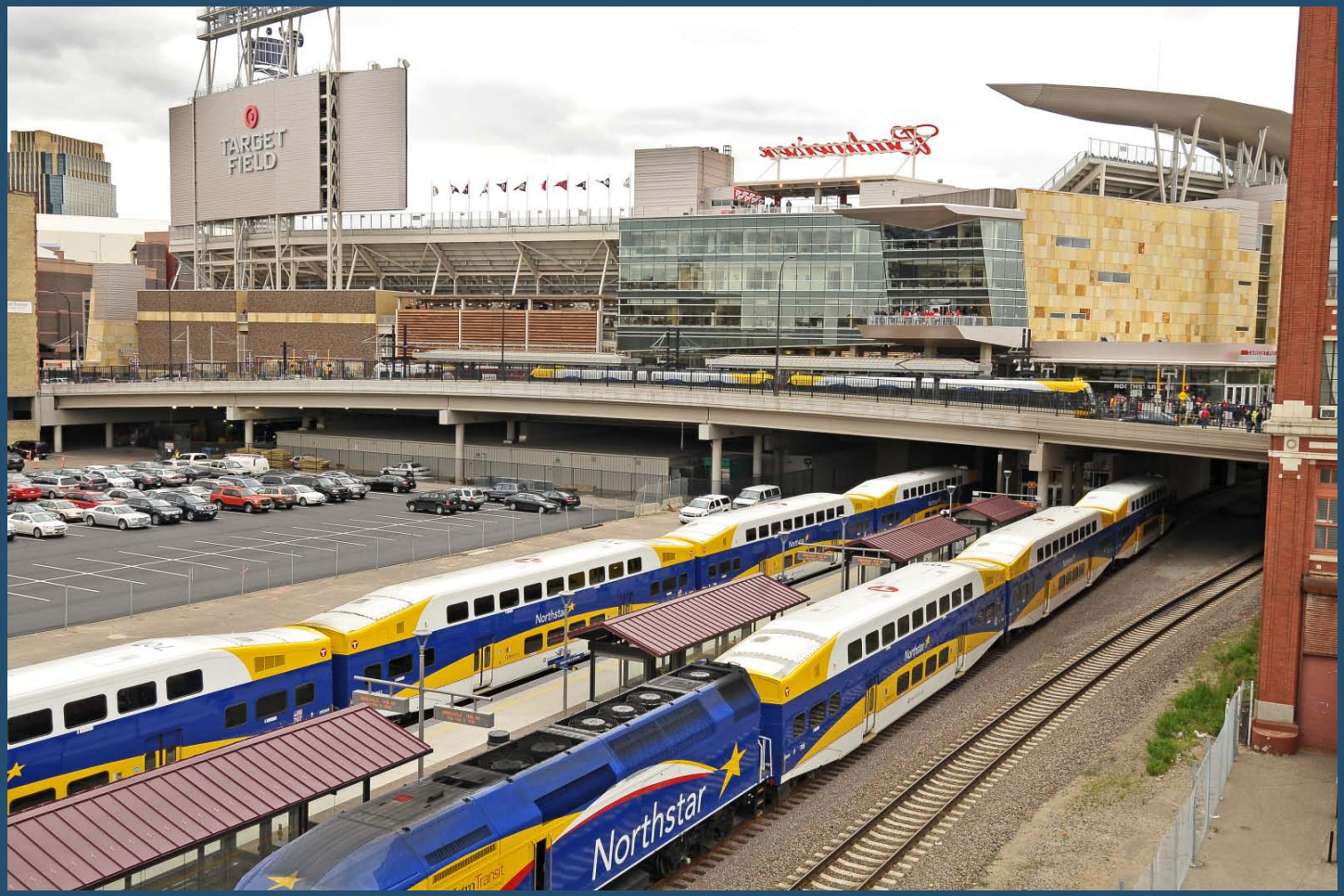
- Context Sensitive Solutions as a business model
- Performance-based design
- Preventative flood mitigation program
- Quality of life research
- Minnesota GO
- DBE Collaborative
- INVEST evaluation

and more. . .

Sustainability in Practice: St. Peter



Sustainability in Practice: Target Field




The future will be here before we know it!

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