Smart Transportation
In Pennsylvania and Beyond

by Allen D. Biehler and Mary Taylor Raulerson

New Partners for Smart Growth

February 2, 2012
Pennsylvania’s Highway System

- 40,000 Miles state highways
- 76,000 Miles local roads
Pennsylvania’s Transit Systems

- 20 Urban Systems
- 16 Rural Systems
- 59 Shared Ride Systems

credit: Chronovial / Flickr
Pennsylvania’s Land Development (1990-00)

3.4% growth in population

54% increase in developed land

Credit: Joel Cayford
Pennsylvania’s Traffic Growth

48% increase

Vehicle Miles Traveled

Year

1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003

All Vehicles
A Daunting
Repair Backlog

Credit: Jeff Soderquist, Eric Thornley
Transportation
Program Reassessment March 2004

26 Projects
5 Billion Dollars

STOP or re-evaluate
Capacity Adding Projects

as percentages of total program

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>2001-2004</td>
<td>25%</td>
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<tr>
<td>2003-2006</td>
<td>23%</td>
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<tr>
<td>2005-2008</td>
<td>20%</td>
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<td>2007-2010</td>
<td>13%</td>
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<td>2009-2012</td>
<td>5%</td>
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<tr>
<td>2011-2014</td>
<td>3.7%</td>
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</table>
Keystone principles

- Redevlop First
- Provide Efficient Infrastructure
- Concentrate Development
- Increase Job Opportunities
- Foster Sustainable Businesses
- Restore And Enhance The Environment
- Enhance Recreational And Heritage Resources
- Expand Housing Opportunities
- Plan Regionally; Implement Locally
- Be Fair

credit: woodleywonderworks / Flickr
PennDOT’s Smart Transportation Journey
Smart Transportation Outreach

- DOT
- State agencies
- Municipalities
- State and local elected officials
- Developers
- Consultants
- Planners
- Engineers
- Community leaders
- Transit agencies
- Alternative transportation advocates

credit: PennLive.com
Suburban growth
Suburban growth
Suburban growth
Conventional Approach
to transportation planning
A full View of transportation options

- Conventional Approach
  - More Lanes
  - More Roads
  - System Management
  - ITS
  - More Cars
  - More Pavement
  - More Efficiency
  - More People, Not Cars
  - Improve Quality of Travel
  - Move Less People, Fewer Miles
  - Manage, Not “Solve”

- Lateral Approach
  - Transit
  - Bicycling
  - Walking
  - HOV/HOT Lanes
  - Traffic Calming
  - Access, Not Mobility
  - Business Friendly
  - Streets as Centerpiece
  - Land Use
  - Road Network
  - Pricing
  - Telecommuting/E-Commerce
  - Lane Limits
  - Change Standards

- Manage, Not “Solve”
  - Lateral Approach
Daily Trips compared
Daily Trips Compared

- From home to school
- From work to a restaurant
- Visiting a friend’s house
The Realization

We can **no longer afford** the conventional approach to tackling transportation issues
Department
Focus Areas

- Infrastructure Preservation
- Safety
- Maximizing Technology to better manage transportation
- Linking Land Use and Transportation
What is Smart Transportation?

Smart Transportation is partnering to build great communities for future generations of Pennsylvanians by linking transportation investments, land use planning and decision-making.
Smart Transportation
Themes
1. Money matters
2. Leverage and preserve existing investments
3. Choose projects with high value/price ratio
4. Safety always and maybe safety only
5. Look beyond level-of-service
6. Accommodate all modes of travel
7. Enhance local network
8. Build towns not sprawl
9. Understand the context; plan and design within the context
10. Develop local governments as strong land use partners
Few, if any, of these projects are affordable at $60 million per mile.
Accommodate All

modes of travel
Build Towns
NOT sprawl
Implementing Smart Transportation

1. Increasing **Partnership** Efforts
2. Changing the **Rules**
3. Changing the **Decision Making** Processes
Increasing partnership efforts

- **Sharing** Smart Transportation message
- **Strategic discussions** with partners and local agencies
- **Outreach** activities and interactive workshops with local officials and professionals
- **Consultant Training**
Internal Communications

• 70 Presentations Logged by 11 Districts
• 1,100 District staff attended training sessions
• Engagement of Districts in local outreach
• Weekly Messages
Changing the rules
Smart Transportation
Guidebook

SMART TRANSPORTATION GUIDEBOOK

Planning and Designing Highways and Streets that Support Sustainable and Livable Communities

New Jersey Department of Transportation

Pennsylvania Department of Transportation

MARCH 2008
Using the guidebook

- Use **flexible design** on all projects
- Increase **coordination** with municipalities
- Link land use and roadway design
- Understand the **design context**
- Design to a **desired** operating speed
Changing project development
Smart Transportation
IN ACTION
US 202 section 700
Montgomeryville to Doylestown

Four Lane Freeway
$465 Million Dollars
US 202 section 700
Montgomeryville & Bucks County
US 202
Cross Sections

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<th>22'</th>
<th>5' Bike lane</th>
<th>Varies</th>
<th>12' Multi-Use Path</th>
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Smart Transportation IN ACTION

- From redesign to Construction in 3 years
- Community and stakeholder support
- Savings of $185 Million
US 202
Construction Progress
Smart Transportation

challenges

The Challenge

“We don’t understand what Smart Transportation is....”

What was done

Developed a Pilot Program.
Pennsylvania community transportation initiative

**Advance the practice** of Smart Transportation

- Land Use Connection
- Collaboration with Stakeholders
- Build Towns not Sprawl
- Readiness
- Innovative
- Consistency with Regional Plans
- Teachability
Pennsylvania community transportation initiative

- **$60 million** dollars over two years
- Received over **400 applications** for over **$600 million**
Selected PCTI projects

Applications Selected | 50
Funds for Selected Projects | $59,284,992
Project examples
City of Altoona
pedbike trail

A 2.5 Mile Trail
connecting the Penn State Altoona Campus to Downtown

credit: Dennis Wong / Flickr
Erie
downtown accessibility
Borough of Carlisle
multimodal transportation

Downtown Plan
Increased walkability
Connection to multi-use trails
Enhanced Safety and Mobility
Lessons Learned

• Land use is local, transportation is regional
• Partner with local governments
• Added capacity is not always the solution
• Experiment with pilot projects
Smart Transportation

Melding transportation and community design.

It takes a culture change … but is worth the effort.
State Smart Transportation Initiative
Origin and Purpose
Origin and Purpose

A new paradigm
SSTI Assists DOTs in Modernizing Practice

- Technical Assistance
- Community of Practice
- Dissemination
Pennsylvania

• Continuous effort to reframe practice
• Engaged critical staff
• Engaged outside partners
• Guidebook into Design Manual
• Demonstration program gave clarity
• Culture change owned by staff and partners
Iowa

- Capacity vs Preservation
- Revenue campaign
- Messaging on system preservation
State faces concerns over funding needed to repair aging bridges

By Luke Jennett
Staff Writer
Published: Friday, November 4, 2011 7:00 PM CDT

One-third of Story County’s bridges are operating at reduced loads due to structural deficiencies.

However, the important thing for drivers to know is bridges in Story County are safe, county engineer Darren Moon said. But keeping them that way, he added, might be a struggle.

The problem Moon and Story County officials are facing is the same as the one being faced across the state: how to maintain a rapidly aging bridge system with funding that hasn’t really increased in decades.

But now the state has backed itself into a corner regarding its bridges, Moon said.

“The counties did a study statewide, and the study showed that we need $150 million per year to maintain the state’s bridges at the level they’re at right now,” he said. “Which isn’t all that good.”

Even the department’s shining hope, a proposed 8- to 10-cent increase in state gas tax, which would bring in $800,000 to Story County alone, will only bring in about half the money the county needs to keep its bridge system up to par.

One-year hiatus
Identify and Prioritize Short- and Medium-Term Transportation Needs

Building a Quality Arizona

Strategic Statewide Implementation Program

Long Range Transportation, Land Use, and Economic Development Strategy
Michigan

- Dashboard
  - Bus & Passenger Rail Ridership
  - Bridge and Road Conditions

- Governor Snyder - Infrastructure Funding
Rhode Island

Annual Highway Expenditures

- Capital improvements $216M
- O& M $42M
- Debt service $96M
Rhode Island has 164 structurally deficient bridges; 61 of those bridges are posted with vehicle weight restrictions.
Kansas

- Practical design
- School location guidelines
Washington
North Carolina

Global review of best practices on funding and finance
Oregon

Governor Kitzhaber

“…transformational change”
Massachusetts

But we’ve always done it this way
Smart Transportation

Our future depends on it.

For more Information:
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