Michigan Transportation Funding Task Force

Schoolcraft College
Livonia, Michigan
May 19, 2008
Welcome and Introductions

Dennis Gillow, Co-Chairman
Michigan Transportation Funding Task Force (TF2)

- Approval of April 21 Minutes
- Approval of Today’s Agenda
Public Comment
Report from the CAC

Gretchen Driskell, CAC
Chairperson
CAC Report

- Four subcommittees continue meeting
  - Aviation, Highway, Road and Bridge, Intermodal Passenger, Intermodal Freight
- Hearing presentations, gathering data from variety of transportation interests
- Analyzing needs under alternate scenarios
  - Good, better, best
- On track to deliver reports to TF2 in July
Michigan Laborers' District Council

Jonathan Byrd
Legislative Representative
Michigan Laborers' District Council
Southeast Michigan
Council of Governments

Carmine Palombo
Director, Transportation Programs
National Surface Transportation Policy & Revenue Study Commission

Frank Busalacchi
NSTPRSC Commissioner
Secretary, Wisconsin DOT
Current Events

- Proposed Federal Gas-tax Holiday
- Comments from Other National Figures
- Proposed State Sales-tax Holiday on gasoline purchases only
- Proposed State Legislation
Discussion
Trends Impacting Transportation Funding

Susan P. Mortel
Director, Bureau of Transportation Planning, MDOT
Trends Impacting Transportation Funding

- Demographic
- Economic
- Travel
- System Performance
- Global Climate Change
- Revenue & Cost Trends
How Demographic Trends May Impact Transportation Funding

- Number of people impacts number of taxpayers, drivers, riders, flyers
- Population density has implications for aero & transit effectiveness, cost efficiency
- Will an aging population have different transportation needs?
- Will a longer-working population stretch out peak highway travel hours?
Correlation between Population and Travel

VMT (in millions) vs. 2000 Pop. (in millions)

Source: 2000 census, FHWA statistics 2006
Projected Population Change by 2030

% Change

- Pop. Decline
- 0 % to 10 %
- 10 % to 25 %
- 25 % to 38 %
- 56 %

Source: MDOT

Source: MI Transportation Plan
MI Population growth vs US, 2030

Michigan: 7.6% increase

Change in Population Age 65+ by 2030

Michigan
70% increase

Projected Michigan Population, 2030

Projected Population by Age Group

- School age children
- Working population
- Seniors (65+)

In millions

Source: 2007 Remi update to 2000 census data
Discussion
How Economic Trends May Impact Transportation Funding

- Businesses rely on transportation
- Transportation is one factor in business location decisions & where they buy services
- Vibrant service sector means more trucks, more dispersed; do they pay their share?
- Service sector may need improved air service
- Decrease in manufacturing means fewer very heavy trucks
- Global economy impacts border crossings
World Economic Growth Slowing

(Percent change, real GDP)

Source: Robert West, Managing Director, Global Trade & Transportation, Global Insight
National Economic Trends Mixed

**Good News**
- Service sector strong & productive
- Infrastructure & durable goods spending better than expected last year
- Strong export performance
- Rapid acceleration of technological innovation
- Globalization

**Bad News**
- Rising interest rates
- Rising fuel costs
- Decline in housing market
- Rising food costs
- Drops in consumer spending/confidence
- Progressively weaker $
- Inflation
- Possible recession
Michigan in Economic Transition

**Good News**
- Typically ranks 2\textsuperscript{nd} or 3\textsuperscript{rd} in R & D
- Ranks 4\textsuperscript{th} in high tech manufacturing
- Health care, education projected to grow
- Agriculture seeing record high returns
- International gateway still going strong

**Bad News**
- Decline of over 270,000 manufacturing jobs from 1999 to 2007 overshadows every success
- Tourism travel relatively flat
- Housing sales as bad here as elsewhere
Transportation and Economic Trends in Michigan

Source: MI Transportation Plan, US Dept. of Commerce, MDOT
Transportation Requirements by Industry

Source: MI Transportation Plan
Logistics Trends

- Accounted for 9.95% of US GDP in 2005
  - 22.3% in China, 17% in India
  - 7.15% in Europe

- US transportation costs rising
  - Rail expenditures up 12% in 2006
  - Truck tonnage down 1.3% in 2006
  - Air freight up 7.6% in 2006, not as sharp as the 17% increase in 2005

Source: Supply Chain Digest, June 2007
Michigan Freight Forecast
For shipments to, from and within the state

Source: FHWA state by state freight analysis

- **Highway**
- **Rail**
- **Water**
Impact of International Truck Flows on Michigan’s Highway Network

Source: National Roadside Survey
Cross-Border Commerce

- Passenger traffic generates millions $ for local & regional economies
- 16.8 million passenger cars in 2006
  - 25% work-related
    - 5-10% of Detroit nurses & med-techs live in Ontario, Canada
  - 40% dining, entertainment & casinos
  - 12% shopping
Autos Crossing the Border

Source: Bridge and Tunnel Operators Association (BTOA) annual figures AND Public Border Operators Association (PBOA) annual figures (PBOA replaced BTOA)
Trucks Crossing the Border

Source: Bridge and Tunnel Operators Association (BTOA) annual figures AND Public Border Operators Association (PBOA) annual figures (PBOA replaced BTOA)
Trains Crossing the Border

Source: Bureau of Transportation Statistics (BTS) Research and Innovative Technology Administration (RITA)
Air Commerce Trends

- World-wide commercial passenger traffic is expected to increase from 4.4 billion to 9.0 billion between 2007 and 2025, per FAA

- In the same period, world air cargo traffic is expected to triple

- Nearly 40% of the value of world trade now goes by air (versus under 2% by weight)

*Source: US Department of Transportation, from FAA Aerospace Forecasts: Fiscal Years 2007-2020, Table 5.*
Air Freight Forecast
Shipments to, from and within Michigan

Source: FHWA state by state freight analysis
Discussion
How Travel Trends May Impact Transportation Funding

- All modes rely on user fees generated by auto and truck travel
  - Will increasing gas prices reduce auto travel?
  - Will increased price of gas make people more likely to try alternative fuel vehicles?
- Air travel also generates user fees
- Will fewer drivers mean more carpoolers, transit riders, or cyclists seeking an alternative to autos?
Average Trend of Michigan Gas Prices 2003-2007

Monthly Average Gas Prices
(Source AAA of Michigan)

Source: MDOT
Annual Vehicle Miles of Travel
State Trunkline Only

Source: HPMS
National Trend: GA Fleet Activity

Source: MDOT Bureau of Aeronautics
Aircraft Operations at Towered Airports

Source: Air traffic control tower records
National Airline Fleet Evolution

Source: MDOT Bureau of Aeronautics
Airline trends affecting Michigan

- Mergers and bankruptcies
- Micromanaging Aircraft Fuel Consumption
  - Reducing Cruising Speeds
  - Taxiing with Single Engine Running
- Fleets evolving
  - General trend toward twin engine aircraft
  - Engine efficiency gains
Michigan Airline Passengers

Source: MDOT Bureau of Aeronautics
Discussion
How System Performance May Impact Transportation Funding

- Convenience, connectivity, safety and on-time performance impact rail, bus and air travel
- Some people will not travel at peak times, or will avoid congested routes
- Some people will pay to avoid highway congestion
Safety: General Aviation
Accidents in Michigan

Source: NTSB
Highway Crash Trend

Source: Michigan State Police
Rail Safety Trend

Crashes at Public At-Grade RR Crossings

Source: MDOT DRoads database
Congestion in Metro Areas
Annual Hours of Delay per Traveler

Source: The 2007 Urban Mobility Report: Texas Transportation Institute
## What Does Congestion Cost?

<table>
<thead>
<tr>
<th></th>
<th>Detroit</th>
<th>Grand Rapids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours of Travel Delay</td>
<td>115,547,000</td>
<td>7,593,000</td>
</tr>
<tr>
<td>Value of Time</td>
<td>$14.60 per person/hour</td>
<td>$77.10 per hour of truck time</td>
</tr>
<tr>
<td>Excess Fuel Consumed</td>
<td>76,062,000</td>
<td>4,404,000</td>
</tr>
<tr>
<td>Average Cost of Gasoline</td>
<td>$2.23/gallon</td>
<td></td>
</tr>
<tr>
<td>Total Costs per year</td>
<td>$2.2 billion</td>
<td>$138 million</td>
</tr>
</tbody>
</table>

Based on Estimated 2005 Data

Source: The 2007 Urban Mobility Report: Texas Transportation Institute
Local Public Transit Statistics *

* As self-reported to MDOT
Intercity Bus Contract Service Statistics

Source: MDOT
Passenger Rail Ridership
1995-2007

[Graph showing the ridership for Detroit-Chicago, Port Huron-Chicago, and Grand Rapids-Chicago from 1995 to 2007.]
Passenger Rail Contract Service Statistics

Source: MDOT
Discussion
How Global Climate Change May Impact Transportation Funding

- A critical mass of people are talking about making changes to address climate change.
- Transportation is expected to be the largest contributor to carbon emissions in Michigan by 2020.
- Financial incentives/disincentives are often used to motivate public change.
Climate Change Projections, 2100

Source: EPA's web site on climate change
Michigan Emissions Growth

Million Metric tons of CO2 equivalent basis (MMtCO2e)

- Waste Management
- Agriculture
- Other Ind. Process
- ODS Substitutes (HFCs)
- Transportation
- Fossil Fuel Industry
- Industrial Fuel Use
- Res/Comm Fuel Use
- Electricity (Consumption Based)

Source: www.miclimatchange.us

December 12, 2007
Transportation & CO2 Emissions
Discussion
Revenue & Cost Trends

- Is federal funding going to continue at current levels?
- How will revenue be affected by increased gas prices?
- How will costs be affected?
- How are other budget pressures affecting transportation revenue?
Michigan’s Rate of Return on Federal Highway Taxes

Historical Rate of Return 1956-2006 84%

Source: MDOT
<table>
<thead>
<tr>
<th>Year</th>
<th>Comprehensive Transportation Fund</th>
<th>Aeronautics</th>
<th>State Trunkline Fund</th>
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<tbody>
<tr>
<td>1998</td>
<td>$13.2</td>
<td>$47.6</td>
<td>$515.8</td>
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<tr>
<td>1999</td>
<td>$18.6</td>
<td>$51.1</td>
<td>$544.5</td>
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<tr>
<td>2000</td>
<td>$18.0</td>
<td>$58.5</td>
<td>$754.7</td>
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<tr>
<td>2001</td>
<td>$32.0</td>
<td>$86.6</td>
<td>$686.4</td>
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<td>2002</td>
<td>$27.8</td>
<td>$106.1</td>
<td>$616.5</td>
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<td>2003</td>
<td>$25.5</td>
<td>$75.0</td>
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<td>2004</td>
<td>$29.7</td>
<td>$107.2</td>
<td>$616.6</td>
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<tr>
<td>2005</td>
<td>$20.5</td>
<td>$123.8</td>
<td>$805.3</td>
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<tr>
<td>2006</td>
<td>$24.9</td>
<td>$117.4</td>
<td>$808.4</td>
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<tr>
<td>2007</td>
<td>$26.2</td>
<td>$112.7</td>
<td>$889.9</td>
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</tbody>
</table>

Source: MDOT AFR
Federal Funds Compared Among Modes

Transit

Highways

Aviation

Source: MDOT
Highway Trust Fund
Highway Account Year End Balance

Source: MDOT
Major Issues for Reauthorization

- **Highway Trust Fund Stability**
  - Despite continued modest growth in revenue, spending continues to exceed income
  - Large cash balances are gone

- **Congestion**
  - 130% increase in VMT over next 50 years
  - Freight doubles in half the time (by 2035)

- **Climate Change**

- **Rising Costs**

- **Aging Infrastructure**
Rising Costs

Significant Increase in Construction Costs

% increase FY 2002-06

- Hot Mix Asphalt: 32.4%
- Concrete: 21.0%
- Subbase: 20.0%
- Aggregate Base: 29.0%
- CPI: 12.2%

Aging Infrastructure

MDOT Bridges by Decade

- Built
- Reconstructed

Source: NBI
Gasoline Gallons Sold Compared with MTF Gasoline Revenue

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue In Million</th>
<th>Gallons Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>$3,000,000,000</td>
<td>$700</td>
</tr>
<tr>
<td>2005</td>
<td>$3,500,000,000</td>
<td>$750</td>
</tr>
<tr>
<td>2006</td>
<td>$4,000,000,000</td>
<td>$800</td>
</tr>
<tr>
<td>2007*</td>
<td>$4,500,000,000</td>
<td>$850</td>
</tr>
</tbody>
</table>

- '04 to '05 decrease: -$10M
- '05 to '06 decrease: -$16M
- '06 to '07 decrease: -$16M

'04 to '07 decrease: -$42M or 4.5%

Source: MDOT
Registration Fees changed to value based in 1982.

Mix of Fuel Taxes and Registration Fees in MTF

<table>
<thead>
<tr>
<th>Year</th>
<th>Fuel Tax</th>
<th>Registration</th>
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<tbody>
<tr>
<td>1982</td>
<td>65%</td>
<td>33%</td>
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<tr>
<td>1987</td>
<td>65%</td>
<td>34%</td>
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<td>1992</td>
<td>57%</td>
<td>42%</td>
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<td>1997</td>
<td>54%</td>
<td>43%</td>
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<tr>
<td>2002</td>
<td>55%</td>
<td>45%</td>
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<tr>
<td>2007</td>
<td>53%</td>
<td>47%</td>
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<tr>
<td>2012</td>
<td>50%</td>
<td>49%</td>
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<tr>
<td>2017</td>
<td>47%</td>
<td>52%</td>
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<tr>
<td>2022</td>
<td>44%</td>
<td>56%</td>
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</tbody>
</table>

Source: MDOT
Decline in Purchasing Power

Actual Purchasing Power of the State Gas Tax has declined by 22.6% since 1998

Source: MDOT
Aviation and Motor Fuel Tax Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>Auto Gasoline</th>
<th>Diesel</th>
<th>Aviation</th>
<th>Aviation (Interstate Airlines)</th>
<th>Inflation</th>
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<tbody>
<tr>
<td>1925</td>
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<td>1977</td>
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<td>1981</td>
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<td>2005</td>
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<td>2008</td>
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Source: MDOT
Aviation Fuel Tax Per Gallon

1929
- Total Price: 21¢ per gallon
- Tax Rate: 3¢ per gallon
- Tax: 14% of cost per gallon

1968
- Total Price: 40¢ per gallon
- Tax Rate: 3¢ per gallon
- Tax: 7.5% of cost per gallon

2007
- Total Price: $4.50 per gallon
- Tax Rate: 3¢ per gallon
- Tax: .7% of cost per gallon

Source: MDOT
Local Public Transit
State Operating Assistance Distribution Rates

Source: MDOT
Local Public Transit Expense by Category

Source: MDOT
Local Public Transit Fuel Expenses

- Fuel Expenses
- Fuel Cost per Gallon

Source: MDOT
Benchmark: 2005 State Transit Funding Per Capita

- 7th in the nation in dollar amount of annual operating assistance
- Higher per capita assistance levels found with extensive metropolitan transit systems (light rail/commuter rail).
- 15th in total state transit funding per capita

Michigan, $19.28

Source: 2005 Survey of State Funding for Public Transportation, AASHTO, APTA, and USDOT
Comprehensive Transportation Fund
State Revenue

Source: MDOT
Impact of CTF Revenue Trends on Transit

- Stagnant state transit revenues
  - MDOT’s contribution to preservation of existing service is decreasing
  - No CTF revenues for expansion
- State's Share of Maintaining Local Transit Services is Decreasing
- Ability to continue to match federal funds is uncertain
Impact of CTF Revenue Trends on Rail Freight

- Freight program revenues down 40% since 2000
  - MDOT Capital projects on state-owned rail lines have been deferred
  - Limited funds for potential applicants to Freight Economic Development Program
Discussion
Efficiencies

Lane Miles Under Jurisdiction/ # of Employees

<table>
<thead>
<tr>
<th>STATE</th>
<th>Lane Miles Per Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>1.5</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>3.3</td>
</tr>
<tr>
<td>Indiana</td>
<td>2.3</td>
</tr>
<tr>
<td>Illinois</td>
<td>2.9</td>
</tr>
<tr>
<td>Michigan</td>
<td>3.3</td>
</tr>
<tr>
<td>Ohio</td>
<td>3.3</td>
</tr>
<tr>
<td>Minnesota</td>
<td>2.6</td>
</tr>
</tbody>
</table>

Source: MDOT
Potential Future Efficiencies

- New partnerships
- Regionalization
- Others?
New Partnerships

- Electronic signing
- Highway design
- Advanced power
- Security & reliability
- Crash avoidance

- Traffic information
- Tracking and routing
- Crash & safety notification
- Safe driver interface
- Remote diagnostics

- Incident ID & response
- CMS & detour signing
- Traffic & road database

State of MI

Telecom Industry

Infrastructure

Vehicles

Automotive Industry

InfoStructure

Traffic Operations

Driving & Traffic

Telematics

Safety & Mobility
Regionalization

- Southeastern Michigan Snow and Ice Management Project (SEMSIM)
Are there others?
Next meeting

- Other States Revenue Studies
- Funding Alternatives
- Suggestions?
Other Business
Public Comment
See you in June!

June 30, 9 a.m. to 4 p.m.
MDOT Aeronautics Auditorium
Lansing, Michigan