Federal Policy

TTP220
Susan Handy
4/11/16
## Transportation Planning Agencies

<table>
<thead>
<tr>
<th>Level</th>
<th>Agency</th>
<th>Funding</th>
<th>Long-Range Plans</th>
<th>Project Selection</th>
<th>Project Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>US DOT</td>
<td>Federal gas tax</td>
<td>Sets requirements for states, MPOs, transit</td>
<td>Inside metro areas – State TIP</td>
<td>Build and maintain highways</td>
</tr>
<tr>
<td>State</td>
<td>Caltrans</td>
<td>State gas tax + federal $</td>
<td>For state Sets reqs for local govt</td>
<td>Outside metro areas – State TIP</td>
<td>Build and maintain highways</td>
</tr>
<tr>
<td>Region</td>
<td>MPOs</td>
<td>Regional sales tax + federal, state $</td>
<td>For metro area</td>
<td>Inside metro areas – Regional TIP</td>
<td>Build and operate transit facilities</td>
</tr>
<tr>
<td></td>
<td>Transit agencies</td>
<td>Regional sales tax, fares + federal, state $</td>
<td>For transit</td>
<td>Transit projects, for inclusion in Regional TIP</td>
<td>Build and operate transit facilities</td>
</tr>
<tr>
<td>Local</td>
<td>Planning DPW</td>
<td>Property tax, fees + federal, state, regional $</td>
<td>For city, under state law</td>
<td>Inside city – Capital Improvement Program</td>
<td>Build and maintain local roads, bike/ped facilities</td>
</tr>
</tbody>
</table>
Intergovernmentalism in U.S. Transport

Federal

$ with strings attached

State

Regional

Proposed projects

Local

State System

Regional System

Local System
Remember Susan’s Tenet

Land use and transportation are inextricably linked.

Accessibility – land with better access is more attractive for development

Derived demand – where activities are located determines where we go
## Transportation vs. Land Use Planning

<table>
<thead>
<tr>
<th>Level</th>
<th>Transportation Agencies</th>
<th>Land Use Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>FHWA, FTA</td>
<td>none</td>
</tr>
<tr>
<td>State</td>
<td>DOT</td>
<td>none</td>
</tr>
<tr>
<td>Regional</td>
<td>MPO, Transit</td>
<td>none</td>
</tr>
<tr>
<td>Local</td>
<td>City and county planning and public works departments</td>
<td>City and county planning department</td>
</tr>
</tbody>
</table>
Federal Government
- Funding
- Planning reqs

State Government
- Projects
- Approvals

Metropolitan Planning Organizations
- Long-range plans
- Short-term programs

Local Governments
- Membership on MPO board
- Submission of proposed projects

Regional transportation system
Critical MPO Questions

• How much leadership can MPOs exert, given involvement of the state and local governments?
• What mechanisms can MPOs use to coordinate transportation and land use planning at a regional scale?
• What should be done about interregional issues, to coordinate across MPOs?
Federal Policy - Dollars

Fixing America’s Surface Transportation

FAST Act

Learn more at www.transportation.gov/fastact

DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA

(Logo image)
Federal Transportation Principles

1. Leveraging federal capacity to raise revenue
   • matching grants (80/20)

2. U.S. Congress and administration set broad national policy goals
   • military defense (Interstate)
   • connectivity
   • economic development
   • technological development (research, ITS)

3. State and local governments identify projects to implement goals; increasing role for regions over time.

4. Traditionally, user pays

5. Traditionally, pay-as-you-go: “Pay-go”
## Rise of intermodal planning (1990s +)

<table>
<thead>
<tr>
<th>Year</th>
<th>Act</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>ISTEA</td>
<td>Intermodal Surface Transportation Efficiency Act</td>
</tr>
<tr>
<td>1998</td>
<td>TEA-21</td>
<td>Transportation Equity Act for the 21 Century</td>
</tr>
<tr>
<td>2005</td>
<td>SAFETEA- LU</td>
<td>Safe, Accountable, Flexible, Efficient Transportation Equity Act – a Legacy for Users</td>
</tr>
<tr>
<td>2012</td>
<td>MAP 21</td>
<td>Moving Ahead for Progress in the 21st Century</td>
</tr>
<tr>
<td>2015</td>
<td>FAST Act</td>
<td>Fixing America’s Surface Transportation</td>
</tr>
</tbody>
</table>
Federal authorizations over time

<table>
<thead>
<tr>
<th>Period</th>
<th>Characterization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1916 to 1956</td>
<td>Testing the waters&lt;br&gt;Tentative steps toward federal involvement</td>
</tr>
<tr>
<td>1956 to 1980s</td>
<td>Unprecedented federal role&lt;br&gt;Focus on highway building</td>
</tr>
<tr>
<td>1990 to 2009</td>
<td>Stable support for federal role&lt;br&gt;Yet, erosion of federal funding&lt;br&gt;Greater focus on diversity of transport needs</td>
</tr>
<tr>
<td>2009 to present</td>
<td>Eroding support for federal role&lt;br&gt;Continued erosion of federal funding&lt;br&gt;Legislated uncertainty</td>
</tr>
</tbody>
</table>
Intermodal Surface Transportation Efficiency Act of 1991

Why was ISTEA a landmark bill?

- Highways and transit treated more equally
- Opportunity for “multimodal” or “intermodal” strategies
- Better planning before money spent
- Tie to Clean Air Act – conformity requirement
How did it happen?

- Organized coalition of diverse interests to counter-balance traditional highway lobby:
  - Surface Transportation Policy Project (STPP)
  - Environmental groups
  - American Planning Association
  - American Institute of Architects
  - Bicycle advocacy groups
  - Disability advocacy groups
  - Etc.
ISTEA era: New directions

• **Systems approach** – alternative modes, environmental protection and mobility (persons and goods)
• **Holistic planning approach** - mobility and access, equity, reliability and external impacts, and cooperative planning by local and state governments;
• **Flexibility** in allocating money among modes (roads, transit, bikes, ped)
• **Linkage to air quality and environment** – in funding and planning
• **Focus on public involvement** - toward participatory decision-making with informed citizenry
# Recent Federal Authorization Bills

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Highways/year</td>
<td>$13-14B</td>
<td>$19.9B</td>
<td>$28.8B</td>
<td>$33.8B</td>
<td>$41.0B</td>
<td>$45.3B</td>
</tr>
<tr>
<td>Transit/year</td>
<td>$3.2-3.8B</td>
<td>$5.2B</td>
<td>$6.8B</td>
<td>$7.6B</td>
<td>$10.7B</td>
<td>$11.8B</td>
</tr>
<tr>
<td>Total/year</td>
<td>$17.1-17.9B</td>
<td>$25B</td>
<td>$35.6B</td>
<td>$41.3B</td>
<td>$52.0B</td>
<td>$57.1B</td>
</tr>
<tr>
<td>Total</td>
<td>$151B</td>
<td>$218B</td>
<td>$286B</td>
<td>$105B</td>
<td>$304B</td>
<td></td>
</tr>
</tbody>
</table>
MAP-21 to Sept 30, 2014

→ Extension 1 to May 31, 2015

→ Extension 2 to July 31, 2015

→ Extension 3 to October 29, 2015

→ Extension 4 to November 20, 2015

→ Extension 5 to December 4, 2015

FAST Act to September 30, 2020

Reauthorization Negotiations

https://www.fhwa.dot.gov/map21/legislation.cfm
FAST Act
Fixing America’s Surface Transportation

• Signed into law December 4, 2015
• $304 billion for FY 2016-2020
  – $70 B in transfers to keep the Highway Trust Fund solvent; fully “paid for” (offset) by unrelated savings
• Builds on the program structure and reforms of MAP-21
• Continued focus on accelerating project delivery
• New focus on freight
  – Adds a new freight formula and expands freight network
  – Adds a new discretionary program for nationally significant freight and highway projects
• Provides a new tribal self-governance option
Title 49-TRANSPORTATION
§5505. University transportation centers program

(a) University Transportation Centers Program.-
   (1) Establishment and operation.-The Secretary shall make
   grants under this section to eligible nonprofit institutions of
   higher education to establish and operate university
   transportation centers.
   (2) Role of centers.-The role of each university transportation
   center referred to in paragraph (1) shall be-
       (A) to advance transportation expertise and technology in
           the varied disciplines that comprise the field of
           transportation through education, research, and technology
           transfer activities;
       (B) to provide for a critical transportation knowledge base
           outside of the Department of Transportation; and
       (C) to address critical workforce needs and educate the next
           generation of transportation leaders.
Concept: Funding Categories or “Programs”

• Importance because...
  – Show federal priorities
  – Determine what kinds of projects
  – Determine distribution of $ (apportion v. allocate)

• Old way: By facility type
  – Different classifications of highway

• New way: By purpose
  – Flexibility to spend across modes
  – Flexibility to spend on new kinds of projects
MAP-21 Program Consolidation

Now called Surface Transportation Block Grant (STBG)

Consolidated into STP in FAST Act

Source: AASHTO, Janet Oakley. See http://www.msconsultants.com/map-21-the-new-transportation-funding/
Concept: Apportioned vs. Discretionary

• **Apportioned programs**: funding allocated to states and/or MPOs and/or transit agencies by formula
  – 92% of highway programs

• **Discretionary programs**: funding allocated competitively based on applications
# FAST Act Formula Highway Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Avg. Annual Funding (millions)</th>
<th>Change from FY 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Highway Performance Program</td>
<td>$ 23,280</td>
<td>+6.3%</td>
</tr>
<tr>
<td><strong>Surface Transportation Block Grant Program</strong></td>
<td>11,654</td>
<td>+15.6</td>
</tr>
<tr>
<td><strong>Transportation Alternatives Set-aside</strong></td>
<td>[760]</td>
<td>+3.3</td>
</tr>
<tr>
<td><strong>Recreational Trails Program Set-aside</strong></td>
<td>[84]</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Surface Transportation Block Grant Program (net of TA &amp; Rec Trails)</strong></td>
<td>[10,809]</td>
<td>+7.3</td>
</tr>
<tr>
<td>Congestion Mitigation &amp; Air Quality Improvement</td>
<td>2,405</td>
<td>+6.1</td>
</tr>
<tr>
<td>Highway Safety Improvement Program</td>
<td>2,317</td>
<td>+5.7</td>
</tr>
<tr>
<td>Railway-Highway Crossings Program</td>
<td>235</td>
<td>+6.8</td>
</tr>
<tr>
<td>Metropolitan Planning</td>
<td>343</td>
<td>+9.5</td>
</tr>
<tr>
<td>National Highway Freight Program</td>
<td>1,249</td>
<td><strong>NEW</strong> +100.0</td>
</tr>
</tbody>
</table>
FAST Act Formula Highway Programs

- National Highway Freight Program
- National Highway Performance Program
- Surface Transportation Block Grant (STBG) Program
- Metro Planning
- Rec Trails
- Transportation Alternatives
- Grade Crossings
- CMAQ
- HSIP

$207.4 B over 5 years
# SAFETEA-era Program Formulae

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>PURPOSE</th>
<th>FACTORS USED IN APPORTIONMENT TO STATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interstate Maintenance (IM)</td>
<td>Maintenance activities on the 43,000-mile Interstate system.</td>
<td>• Interstate lane miles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Amount of driving (VMT) on Interstate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Highway Trust Fund contributions (commercial vehicles)</td>
</tr>
<tr>
<td>National Highway System (NHS)</td>
<td>Improvements on 160,000-mile NHS system, including Interstate and other roads and connections important to national economy, defense, and mobility.</td>
<td>• Lane miles of principal arterials (not the Interstate)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Amount of driving (VMT) on principal arterials</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Diesel fuel used on highways</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• State population</td>
</tr>
<tr>
<td>Surface Transportation Program (STP)</td>
<td>Flexible funding for States and localities for projects on Federal-aid highways, including NHS, bridges on public roads, transit capital projects, &amp; bus facilities.</td>
<td>• Lane miles of Federal-aid highways</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Amount of driving (VMT) on Federal-aid highways</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Highway Trust Fund contributions (highway users)</td>
</tr>
<tr>
<td>Highway Bridge Replacement &amp; Rehab (HBRR)</td>
<td>Replacement or rehabilitation of deficient highway bridges on public roads.</td>
<td>• State share of total cost to repair/replace bridges</td>
</tr>
<tr>
<td>Congestion Mitigation &amp; Air Quality Improvement Program (CMAQ)</td>
<td>Funds for State DOT, MPO, and transit agency projects that reduce air pollutants in areas now or formerly exceeding allowable levels.</td>
<td>• Population in areas with substandard air quality</td>
</tr>
</tbody>
</table>
Surface Transportation Block Grant Program (STBG)

- $11.7 billion per year
- “The most flexible eligibilities among all Federal-aid highway programs”
  - “In general, STBG projects may not be on local roads or rural minor collectors.”
- “Suballocation” of 51-55% given directly to MPOs
- “Set asides” for:
  - Transportation alternatives (e.g. bike/ped)
  - Other things: planning and research, bridges

https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm
Congestion Management/Air Quality (CMAQ)

• $2.4 billion per year

• “a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act”

• Apportionment to states based on previous apportionments, originally based on extent of air quality problem
  — 25 percent goes to areas in state (if any) with PM 2.5 problems.

• “Funds may be used for a transportation project or program that is likely to contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of effectiveness in reducing air pollution.” Eligible projects include: Vehicle-to-vehicle communication; EV and NG infrastructure

https://www.fhwa.dot.gov/fastact/factsheets/cmaqfs.cfm
National Highway Freight Program | NEW

• $1.2 B / year (average), apportioned to States by formula
• Eligible activities include construction, operational improvements, freight planning and performance measures
• Highway focus, but ≤10% for rail/port/intermodal projects
• States required to have freight plans to obligate NHFP $ (beginning FY 2018)
FASTLANE grants | NEW
(nationally significant freight and highway projects)

• $900 M/year (average) for competitive grants or loans for projects >$100 M (reduced for States w/ small programs)

• Eligible activities:
  – Highway freight projects on National Highway Freight Network
  – NHS highway/bridge projects, projects in National Scenic Areas
  – Freight rail/intermodal/port projects (≤$500 M over 5-year period)
  – Rail-highway grade crossing or grade separation projects

• States, large MPOs, Tribes, localities, and FLMAs may apply

• OST selects projects; Congress has 60 days to disapprove
Title III Transit Funding

*(note: MAP-21 numbers!)*

- Funds flow mostly to transit agencies directly
- Discretionary capital grants (18% of funds)
- Formula grants (81% of funds)
  - State of Good Repair
  - Bus & Bus Facilities
  - Urbanized & rural formula
- Generally, limited federal $ for operations
Notes on Funding

• Mostly, distribution by formula – population, road miles, etc.
  – But some discretionary (increasingly limited)

• Most, money goes to states – they decide how to divide
  – But some directly to MPOs, transit agencies

• Mostly, federal share: 80%; state/local: 20%
  – But higher local shares when competing, e.g. for LRT

• Vulnerability to annual budget cycles – cuts
  – But TEA-21 set “firewall”
Federal Policy - Planning

Fixing America’s Surface Transportation

FAST Act

Learn more at www.transportation.gov/fastact
ISTEA Process Requirements

• Planning Factors
• Public Involvement
• Fiscal Realism
• Coordination with other plans: state-local and T-LU-AQ
  – Clean Air Act Amendments of 1991
• Certification of planning activities
• Environmental Streamlining
  – National Environmental Policy Act of 1969
Planning Factors – current version

1. Support the **economic vitality** of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;

2. Increase the **safety** of the transportation system for **motorized and nonmotorized** users;

3. Increase the **security of the transportation system** for motorized and nonmotorized users;

4. Increase the **accessibility and mobility** of people and for freight;

5. Protect and enhance the **environment**, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;

6. Enhance the **integration and connectivity** of the transportation system, across and between modes, for people and freight;

7. Promote **efficient system management and operation**, and;

8. Emphasize the **preservation** of the existing transportation system.

9. Improve the **resiliency and reliability** of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and

10. Enhance **travel and tourism**.
What difference did it make?

- Change the process
- Change the projects
- Change travel patterns
- Improve things
<table>
<thead>
<tr>
<th></th>
<th>Sacramento</th>
<th>Minneapolis</th>
<th>Orlando</th>
<th>Denver</th>
<th>Baltimore</th>
<th>Memphis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fed bike/ped per capita</td>
<td>0.95</td>
<td>1.30</td>
<td>1.05</td>
<td>0.53</td>
<td>0.59</td>
<td>0.53</td>
</tr>
<tr>
<td>Share of $ for bike/ped</td>
<td>2.4%</td>
<td>2.5%</td>
<td>2.6%</td>
<td>1.2%</td>
<td>1.0%</td>
<td>0.6%</td>
</tr>
<tr>
<td># of programs used for bike/ped</td>
<td>9</td>
<td>9</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Share of federal bike/ped $ from TE</td>
<td>40%</td>
<td>75%</td>
<td>60%</td>
<td>78%</td>
<td>81%</td>
<td>99%</td>
</tr>
</tbody>
</table>

Source: Handy and McCann 2010
State DOT

Goals & Interests → Policies & practices → Projects selected

MPO

Goals & Interests → Policies & practices → Projects selected

Local Governments

Goals & Interests → Policies & practices → Projects proposed

Transportation Improvement Program projects in the region

Advocacy Groups
Federal Policy - Issues

Fixing America’s Surface Transportation

FAST Act

Learn more at www.transportation.gov/fastact
Is there still a federal role?  
What should it be?
Federal Role in Funding: Growing Ever Less Significant

Highway Funding and Expenditures by Local, State, and Federal Governments, 1970-2008
Our Nation's Highways: 2011
What parts of the system are of national significance?
Geopolitical Equity: Donor-Donee

Figure 20. Donor-Donee Ratios, 1998-2002

Donor-Donee

1. Salience as federal policy issue varies.
2. Some states’ status changes year-year, depending on
   - Economic conditions
   - Tax receipts from fuel, truck & tire sales
   - Shifts in fuel use
4. Different ways to calculate donor-donee status, with different political implications.
Modal Equity: The Split

• Proportion of spending for highways versus transit.
• Historically, 80 highways / 20 transit.
• Advocates pushed w/ MAP 21 for 76/ 24 but were unsuccessful.
• FAST Act continues 80/20 split.
Whether to Grease the Wheels?

Are we better off with earmarks?
Or without?
The Era of Earmarks:
Consensus declines, Earmarks rise?

Decade Shares of "High Priority Project" Earmarks in Federal Highway Funding (1970 - 2005)

<table>
<thead>
<tr>
<th>Decade</th>
<th>Earmarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970 - 1979</td>
<td>21</td>
</tr>
<tr>
<td>1980 - 1989</td>
<td>288</td>
</tr>
<tr>
<td>1990 - 1999</td>
<td>2,962</td>
</tr>
<tr>
<td>2000 - 2005</td>
<td>8,049</td>
</tr>
</tbody>
</table>

Source: Gian-Claudia Sciara
Earmarks’ Dramatic Increase

Source: Gian-Claudia Sciara
Planning Problems

How does the earmark fit in the regional TIP & plan?

...a project we can live with

...a real stinker.
Receipts, Outlays, and Balances of the Highway Trust Fund

(Billions of dollars)

Source: Congressional Budget Office.
Note: Estimates are based on CBO’s February 2013 baseline projections.
States in General

- State long-range plan
- Administration of federal funds
  - Suballocation to MPOs
  - Programming in non-MPO areas
- Participation in MPO planning and funding programs
- State-funded programs
  - Amounts by category
  - Requirements

Variation by state!
The North/South Split: 
*Norms of Geographic Equity in CA*

- Since 1927, highway construction funds have been split between the 45 counties in northern Calif. and the 13-county area of Southern Calif: now 40% north, 60% south
- Within the north and south regions, county minimums are calculated based upon population and vehicle miles traveled.

Source: Lewis and Sprague (1997), p. 70
AB32
The California Global Warming Solutions Act of 2006

80% reduction of GHG from 1990 levels by 2050

http://www.arb.ca.gov/cc/scopingplan/meetings/070808/slides_julyspworkshops.pdf
Climate Change Scoping Plan

a framework for change

DECEMBER 2008

Pursuant to AB 32
The California Global Warming Solutions Act of 2006

Prepared by
the California Air Resources Board
for the State of California

Arnold Schwarzenegger
Governor

Linda S. Adams
Secretary, California Environmental Protection Agency

Mary D. Nichols
Chairman, Air Resources Board

James N. Goldstene
Executive Officer, Air Resources Board
California Emission Sources (2008)

- Transport, 37%
- Utilities, 34%
- Industrial, 20%
- High GWP gases, 3%
- Other, 6%

AB32 Emission Reduction Strategies

- Clean Cars and Standards, 27%
- Cap and Trade, 16%
- Renewable Energy, 19%
- Energy Efficiency, 12%
- LCFS, 13%
- Smart Growth, 3%
- High GWP Forestry, Measures, 4%
- High GWP, Measures, 7%

Source: CARB, California GHG Inventory for 2000-2008; Scoping Plan, 2020 Emissions Forecast
SB375
Sustainable Communities Planning Act of 2008

Targets for per capita GHG emissions reduction from cars and trucks for metropolitan areas, by reducing vehicle-miles-traveled (VMT)

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sacramento</td>
<td>7%</td>
<td>16%</td>
</tr>
<tr>
<td>Bay Area</td>
<td>7%</td>
<td>15%</td>
</tr>
<tr>
<td>LA region</td>
<td>8%</td>
<td>13%</td>
</tr>
<tr>
<td>San Diego</td>
<td>7%</td>
<td>13%</td>
</tr>
</tbody>
</table>
Sustainable Communities Strategies in conjunction with Regional Transportation Plans
Smart Mobility Definition

Smart Mobility moves people and freight while enhancing California’s economic, environmental, and human resources by emphasizing:

- Convenient and safe multi-modal travel
- Speed suitability
- Accessibility
- Management of the circulation network
- Efficient use of land
<table>
<thead>
<tr>
<th>Principle</th>
<th>Performance Measure*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location Efficiency</td>
<td>1. Support for Sustainable Growth</td>
</tr>
<tr>
<td></td>
<td>2. Transit Mode Share</td>
</tr>
<tr>
<td></td>
<td>3. Accessibility and Connectivity</td>
</tr>
<tr>
<td>Reliable Mobility</td>
<td>4. Multi-Modal Travel Mobility</td>
</tr>
<tr>
<td></td>
<td>5. Multi-Modal Travel Reliability</td>
</tr>
<tr>
<td></td>
<td>6. Multi-Modal Service Quality</td>
</tr>
<tr>
<td>Health and Safety</td>
<td>7. Multi-Modal Safety</td>
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<td>8. Design and Speed Suitability</td>
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<td>9. Pedestrian and Bicycle Mode Share</td>
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<td>Environmental Stewardship</td>
<td>10. Climate and Energy Conservation</td>
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<td>11. Emissions Reduction</td>
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<tr>
<td>Social Equity</td>
<td>12. Equitable Distribution of Impacts</td>
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<td>13. Equitable Distribution of Access and Mobility</td>
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<tr>
<td>Robust Economy</td>
<td>14. Congestion Effects on Productivity</td>
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<td>15. Efficient Use of System Resources</td>
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<td>16. Network Performance Optimization</td>
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<td>17. Return on Investment</td>
</tr>
</tbody>
</table>

* Most of the performance measures relate to multiple principles. This Exhibit groups each of the performance measures with the principle with which it is most strongly related.
Summing it up...

• Trend at the federal level but even more so at the state level toward...
  – Incentives for coordination of land use planning with transportation planning.
  – Performance measures to ensure lower-level decisions work towards upper-level goals.
Next time

• Research paper workshop!
• Come prepared to give 5 minute information presentation on your paper!
• Papers due next Monday! Submit via SmartSite and bring hardcopy