National Perspectives
The TRB Joint Subcommittee of Highway Traffic Monitoring

Bicycle and Pedestrian Data Subcommittee

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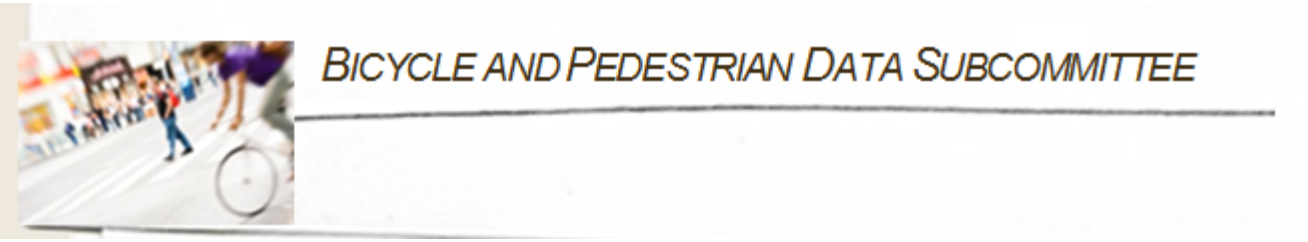
Colorado Department of Transportation

Bicycle and Pedestrian Data Subcommittee

Why is a Subcommittee needed?

Lots of data usage and modeling projects/research but none focused on data collection and equipment for acquiring non-motorized volume data

No guidance on travel monitoring data program development



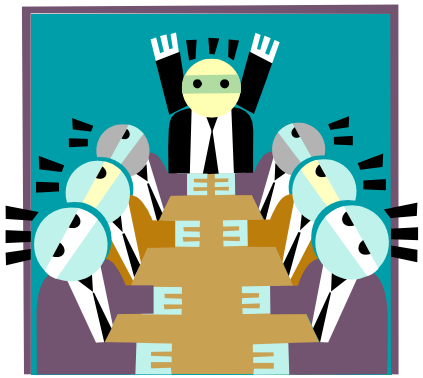
History

TRB Staff requested Subcommittee members meet and develop a formal mission statement focused on Bicycle and Pedestrian Data (April, 2011)

- First Subcommittee meeting May 5, 2011
- Transportation Research Board (TRB) mid-year meeting June 8, 2011
- Long way to go, lots to learn
  - Looking for answers, still asking questions
- Communication still needed

Members

- **Liz Stolz**, Subcommittee Chair, Colorado Department of Transportation
  - Highway Travel Monitoring Committee (ABJ35) (Lead Committee Sponsor)
  - Data and Information Systems (IS) Committee (ABJ10)
  - Traffic Monitoring Guide (TMG) Update Project Team Member
- **Stacey Bricka**, Subcommittee Co-Chair, Texas Transportation Institute
  - Travel Survey Methods Committee (ABJ40)
- **Thomas Gotschi**, University of Zurich
  - Bicycle Transportation Committee (ANF20)
- **Shawn Turner**, Texas Transportation Institute
  - Pedestrian Committee Chair (ANF10)
- **Steven Jessberger**, Federal Highway Administration
  - Highway Travel Monitoring Committee (ABJ35)
  - Traffic Monitoring Guide (TMG) Update Project (Project Manager)
- **Scott Brady**, Delaware Valley Regional Planning Commission
  - Traffic Monitoring Guide (TMG) Update Project Team Member
- **Nancy Lefler**, VHB Engineering
  - Highway Safety Specialist
  - Pedestrian Committee (ANF10)
- **Nanda Srinivasan**, National Cooperative Highway Research Program (NCHRP)
  - National non-profit research organization that conducts research in problem areas affecting highway planning, design, construction, operation, and maintenance

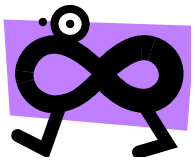


Who is interested in the Bicycle and Pedestrian Data Subcommittee?

Committee Partners

- Highway Travel Monitoring Committee
- Travel Survey Methods Committee
- Data & IS Committee
- Bicycle Transportation Committee
- Pedestrian Committee

Everyone



- Internal/External Governmental Agencies
- Public/Private entities (real-estate agent, lawyer, engineer, planner, etc.)

Subcommittee Data?

What data does this Subcommittee cover?

- Volume data
- Safety data
- Travel Survey Data (Origin and Destination, Trip Purpose, Gender, Age, etc.)
- GIS Data (land-use, roadway, accident, etc.)
- Data sources (blue tooth, radar, video, inductive loop, etc.)
- Other data

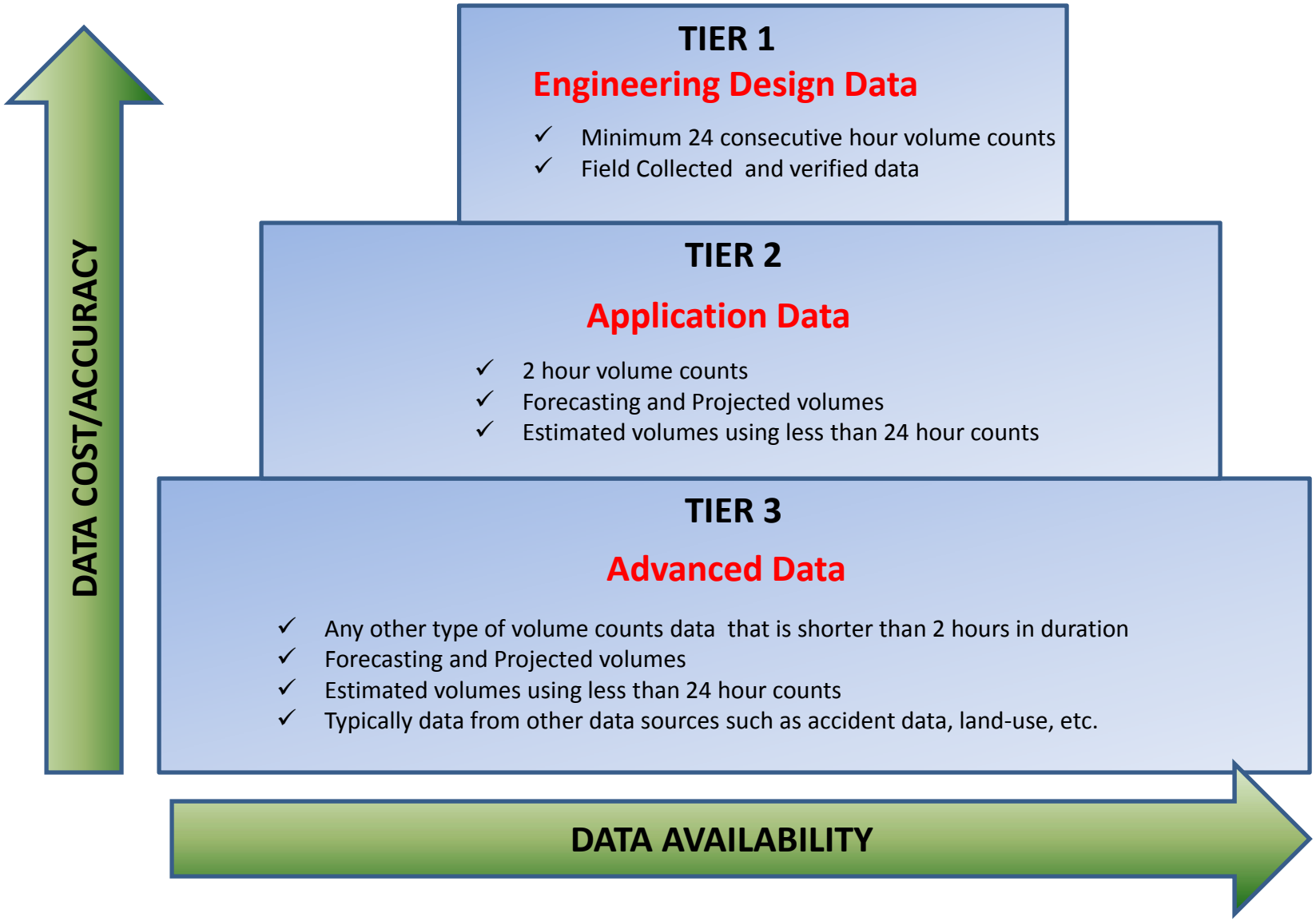
Subcommittee Organization

How is this committee organized?

"Tiered Data Structures"

Tier 1 – Engineering Data
Tier 2 – Applications Data
Tier 3 – Advanced Data

Bicycle and Pedestrian Tiered Data Structure



Bicycle and Pedestrian Tiered Data Structure

DATA COST/ACCURACY

TIER 1

Engineering Design Data

- ✓ Minimum 24 consecutive hour volume counts
- ✓ Field Collected and verified data

Data Suppliers
- Data Program Managers
- Limited - Funding

Data Users
- Engineers, Planners, All

TIER 2

Application Data

- ✓ 2 hour volume counts
- ✓ Forecasting and Projected volumes
- ✓ Estimated volumes using less than 24 hour counts

Data Suppliers
- Other Managers

Data Users
- Data Modelers, Planners, All

TIER 3

Advanced Data

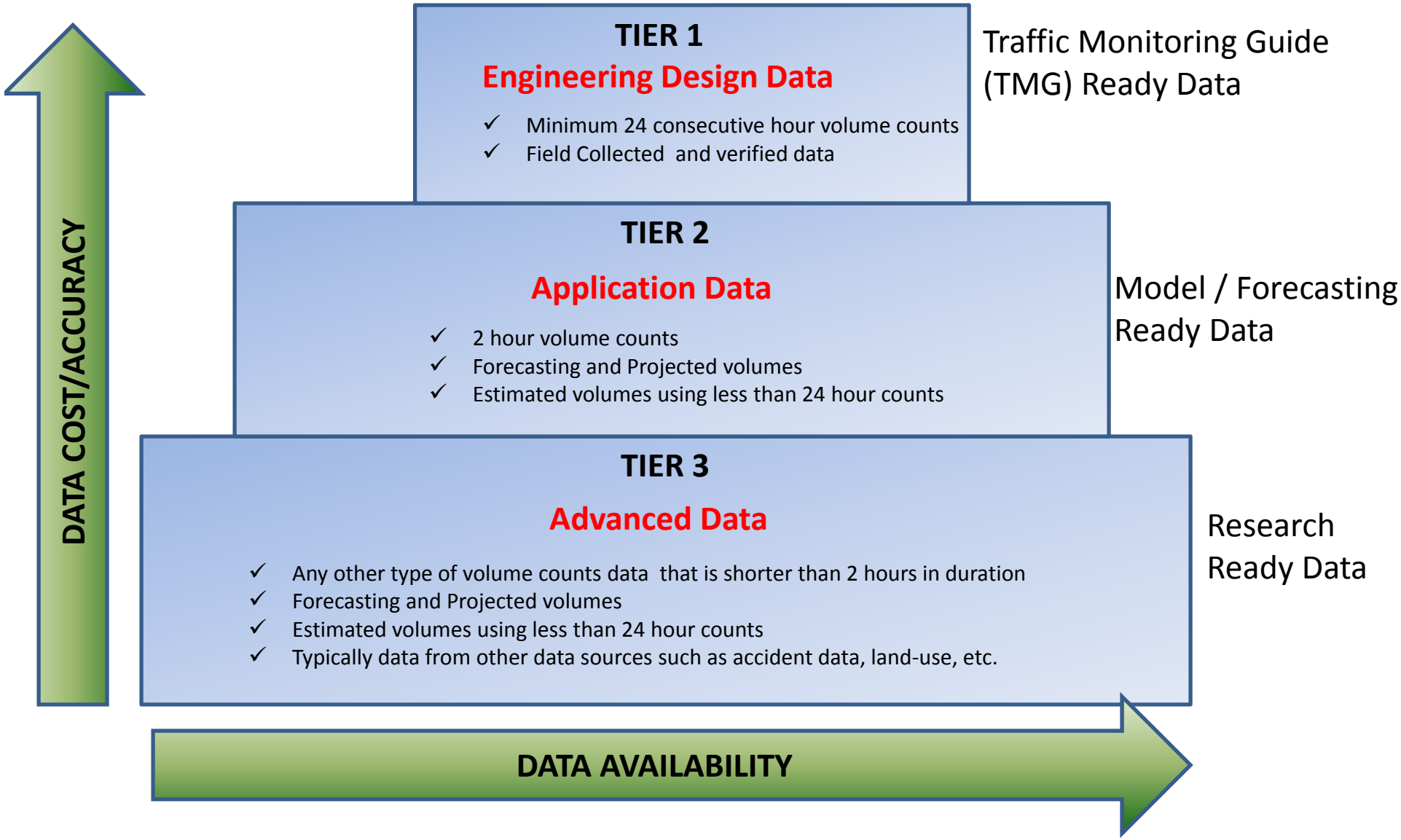
- ✓ Any other type of volume counts data that is shorter than 2 hours in duration
- ✓ Forecasting and Projected volumes
- ✓ Estimated volumes using less than 24 hour counts
- ✓ Typically data from other data sources such as accident data, land-use, etc.

Data Suppliers
- Various/Many

Advanced Data Users
- Researchers

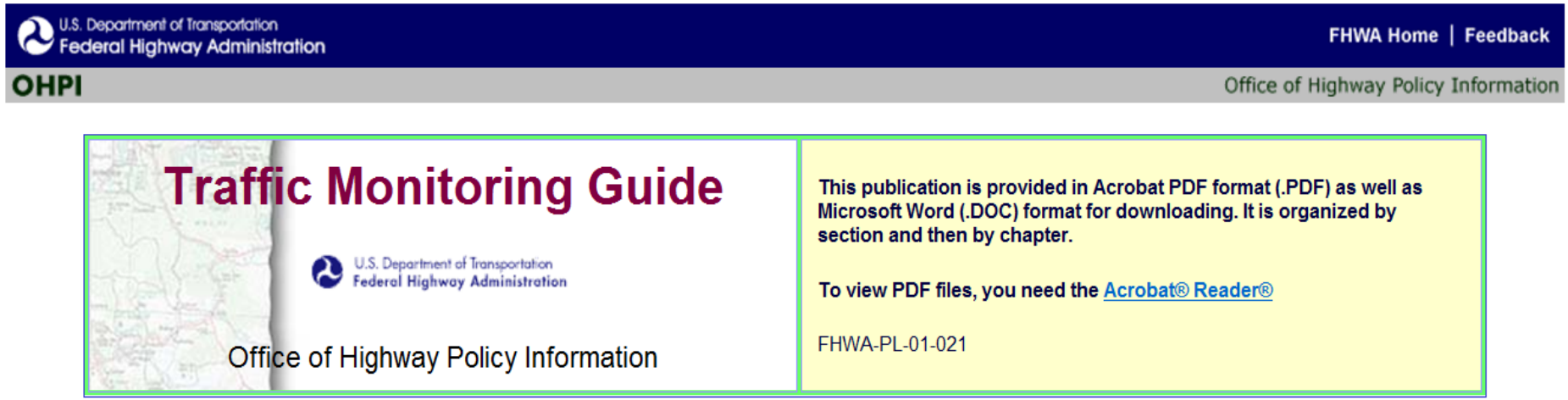
DATA AVAILABILITY

Bicycle and Pedestrian Tiered Data Structure



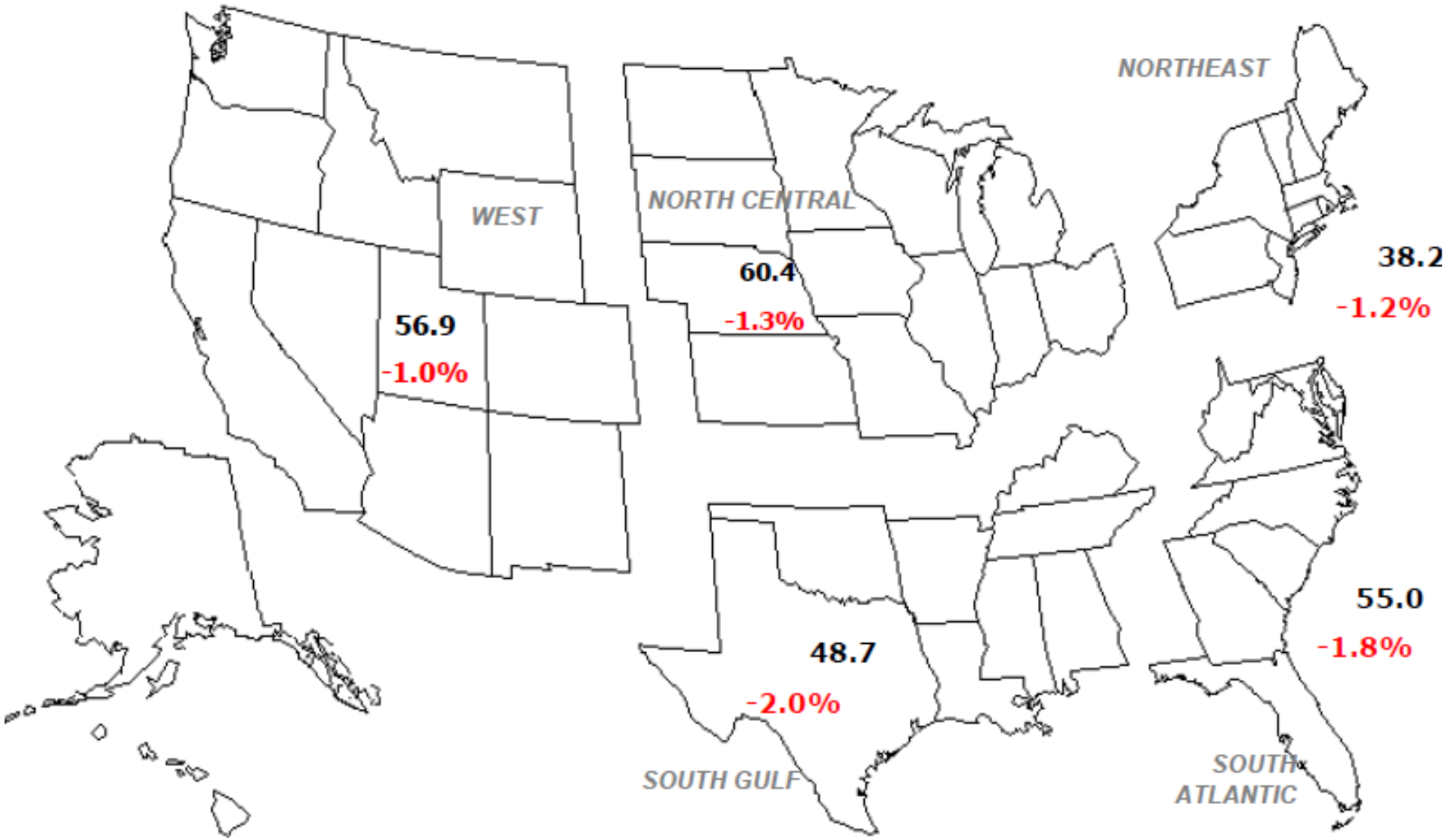
Tier 1 – Engineering Data

- Traffic Monitoring Guide (TMG)
  - http://www.fhwa.dot.gov/ohim/tmguide/
- Travel Volume Trends (TVT) Monthly Report
  - http://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm
- AASHTO Traffic Data Guidelines
  (American Association of State Highway and Transportation Officials)



June, 2011 TVT Report

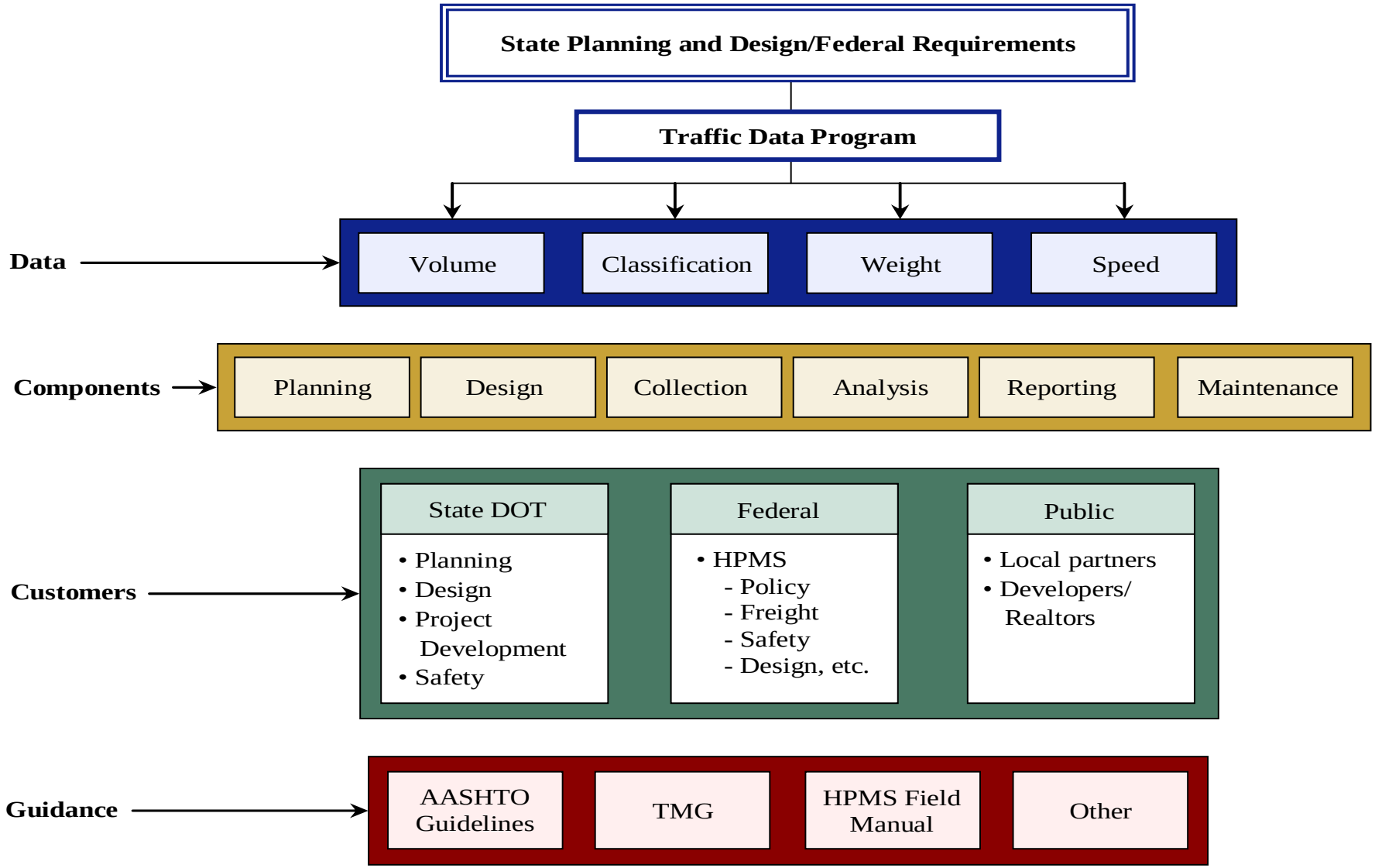
Estimated Vehicle-Miles of Travel by Region - June 2011 - (in Billions)
Change in Traffic as compared to same month last year.



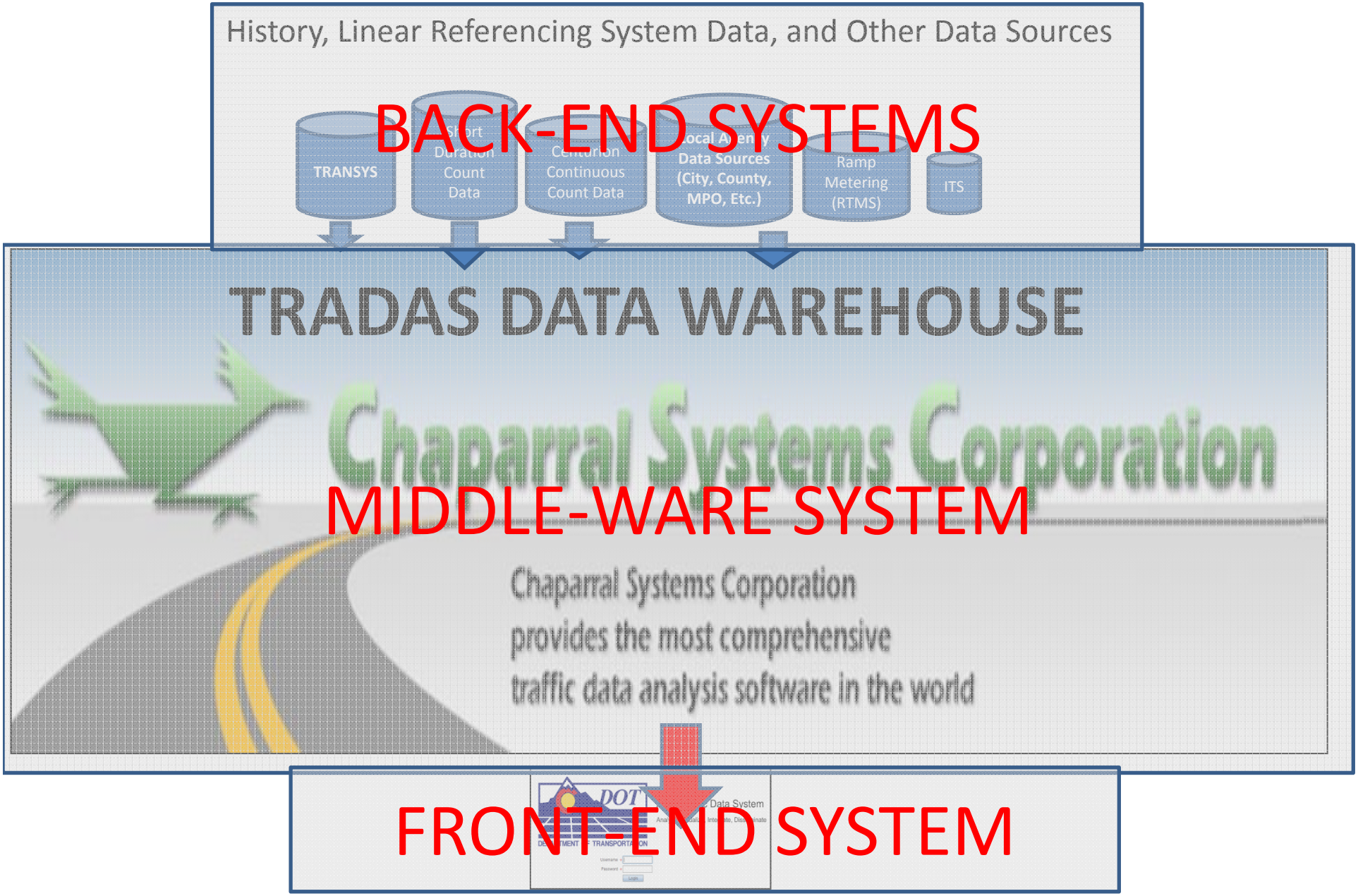
AASHTO Traffic Data Guidelines

(American Association of State Highway and Transportation Officials)

Figure 1.1 Summary of Traffic Data Programs



Typical DOT Travel Monitoring Program System Architecture



Bike/Ped Data Program Funding?

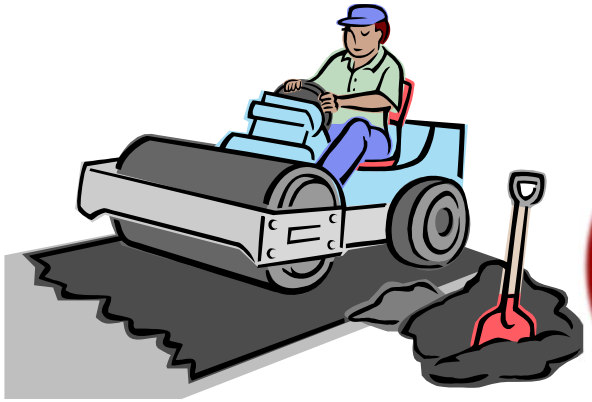
Department of Transportation Federal Funding

- Rely on motorized traffic volume data
- Take motorized traffic volumes and multiple times the number of linear miles of roadway to get each state's allocated federal funding

Funding Reality

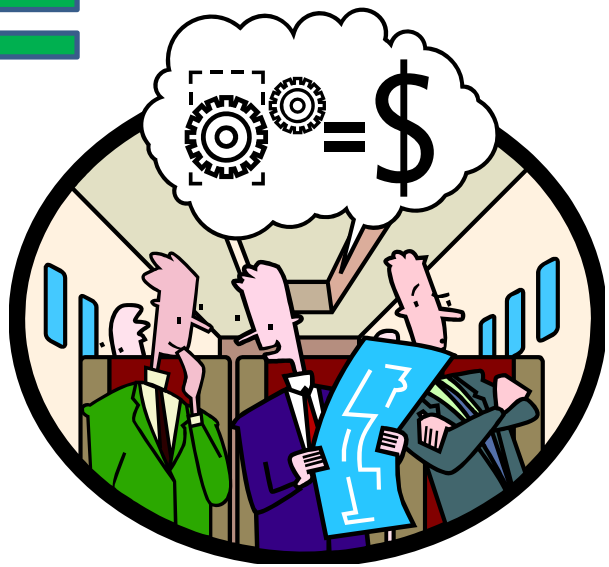
Linear Miles of Roadway Asphalt/Concrete * Motorized Vehicles = Federal Funding

What if?



What if…?

Linear Miles of Alt Mode Accommodations * Non-motorized Travelers = Federal Funding Incentives



Elements of a Comprehensive Data Program

- Trained Staff
- Staff Development with Clear Career Paths
- Implementation of Feedback mechanisms
- Continuing Outreach
- Continuous Research on Data Improvement
- Dissemination, Reporting, Visualization

Collection of Travel Data is a Shared Responsibility

- City/County/State/Federal Agencies
- Must address “Lack of Evidence”
  - Problem is Measurement
  - Problem is Evaluation
- In both Transportation and the Physical Activity (Health) Fields
  - Lack of data to support models showing how the environment influences behavior such as walking and cycling

Critical Decision Making

- No data to support multi-million dollar investment decisions
- Lack of travel data to meet the demand for information
- Insufficient data to support meaningful analyses
- Results are not timely

Why?

- A well integrated travel monitoring dataset is needed to guide transportation policies and investments
- Support the wise-use of transportation dollars through active data integration efforts
  - Example: Colorado's Statewide Traffic Data Committee
- Good decision making includes experienced individuals providing with comprehensive, complete, and accurate data

To meet the data demand…

There must be a greater use of Technology

- Data Collection
- Integration
- Management
- Dissemination

Current Gaps in Travel Monitoring Datasets

- US Transportation System moves 5.5 trillion passenger-miles of traffic each year*
- Decisions made on the basis of inadequate datasets
  - Lacking modal coverage
  - Lacking timeliness
  - Lacking geographic detail

http://onlinepubs.trb.org/onlinepubs/sr/sr304.pdf *

User Needs

- More complex transportation systems require more varied and detailed transportation data
- Supply not aligned with Demand
  - Example: transportation demand is NOT only a matter of adding more capacity but also modifying demand and optimizing the operation of existing systems while at the same time minimizing adverse impacts on air quality, energy use, and climate*

http://onlinepubs.trb.org/onlinepubs/sr/sr304.pdf *

How do we accomplish making informed decisions about bicycles and pedestrians?

- Establish existing system usage
  - Without data must guess
  - Having data is the key to making informed decisions
- Provide usage information to others
  - Maintenance
  - Planning
  - Other Agencies

National Project Lists

- NCHRP 07-19 – An Evaluation of Innovative Methods to obtain Bicycle and Pedestrian Volume Data (Highway Safety Funding)
- NCHRP 08-78 – Estimation/Forecasting of Bicycle and Walking Volumes for Planning and Project Development
- Traffic Monitoring Guidebook (TMG) Update Project Federal Highway Administration (FHWA) - (Office of Highway Policy Funding)

National Conferences

- January 22-26, 2012 Transportation Research Board (TRB) Annual Meeting, Washington D.C.

  http://www.trb.org/AnnualMeeting2012/AnnualMeeting2012.aspx

- January 22, 2012 TRB Bicycle and Pedestrian Data Subcommittee Workshop (All Day)
- June 4-7, 2012 North American Travel Monitoring Exposition and Conference (NATMEC), Dallas, Texas

  http://onlinepubs.trb.org/onlinepubs/conferences/2012/NATMEC/Call.pdf

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